

Local Earthquakes Recorded by Polish Seismic Stations 2005

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1. General information

The majority of seismic events recorded in Poland are caused by mining activity in the Upper Silesian Coal Basin and Lubin Copper Basin. Induced seismicity is observed less frequently in the Rybnik Coal District and Bełchatów Open-Pit Mining area.

The series of local earthquakes that began on November 30, 2004, of local magnitude $M = 4.4$, macroseismic intensity $I_0 = 7$ in the southern margin of the intramontane Orawa-Nowy Targ Basin, Western Carpathians, have been still recorded in 2005, mainly in January and February (Guterch 2006, 2007). The strongest aftershocks did not exceed macroseismic intensity 5 in the EMS scale.

Eight seismic stations were in operation in 2005 at the Institute of Geophysics, Polish Academy of Sciences: Górka Klasztorna (GKP), Kalwaria Paławska (KWP), Książ (KSP), Niedzica (NIE), Ojców (OJC), Racibórz (RAC), Suwałki (SUW) and Warszawa (WAR). Station parameters are given in Table 1. The location of seismic stations operated by the Institute of Geophysics and by research centers associated with coal mining (Katowice, Bełchatów) and copper mining (Lubin) is presented in Fig. 1.

The bulletin contains a list of local earthquakes which occurred in 2005 in Poland. The full description of each earthquake contains: epicentral location (ϕ , λ), time of origin (H), local magnitude (M). The location of events listed in this bulletin is given in Fig. 2. For comparison, location of the same events done by NEIC is presented in Fig. 3.

Magnitudes of all earthquakes are based on spectral method. This method allows conversion of the recorded ground particle velocities into ground particle displacements. The modified FFT method has been applied, for which a multitaper method (Thomson 1982, Park *et al.* 1987) has been used instead of a single taper window. The multitaper

Table 1
Seismic stations – site information and equipment

Station	Location	Date of opening	Current equipment		Foundation
			Seismometers	DAS	
GKP – Górka Klasztorna	53.2697 N 17.2367 E 115 m	Jun 2004	STS-2 (VBB)	MK-6	Post-glacial sediments
KSP – Książ	50.8428 N 16.2931 E 353 m	Jan 1971	STS-2 (VBB) BB-13 (BB) GS-13 (SP) SM-3 (SP)	MK-6 MK-2 MK-2 analogue	Consolidated sandstone, Lower Carboniferous
KWP – Kalwaria Paławska	49.6314 N 22.7075 E 448 m	Jun 1999	STS-2 (VBB)	Quanterra	Carpathian Flysh
NIE – Niedzica	49.4189 N 20.3131 E 649 m	May 1960	SM-3 (SP)	MK-5	Limestone
OJC – Ojców	50.2196 N 19.7984 E 391 m	Sep 1991	STS-2 (VBB) GS-13 (SP) SM-3 (SP)	MK-6 MK-2 analogue	Limestone
RAC – Racibórz	50.0833 N 18.1942 E 209 m	Jan 1948*	KIRNOS (LP) SM-3 (SP)	MK-5 MK-5	Alluvial sands and clay
SUW – Suwałki	54.0125 N 23.1808 E 152 m	Nov 1995	STS-2 (VBB)	Quanterra	Post-glacial sediments
WAR – Warszawa	52.2417 N 21.0236 E 110 m	Jan 1939	STS-2 (VBB)	MK-6	Alluvial sands and clay

Seismometers: SP – short-period, LP – long-period, BB – broadband, VBB – very broadband
Data acquisition system (DAS): Quanterra Q380 – in cooperation with GEOFON network;
MK-2, MK-5, and MK-6 described by Wiszniowski (2002)

* Date of reactivation after the World War II

method allows for a better and more reliable evaluation of spectrum. The scaling of the calculated spectra has been done using Parseval's theorem for every applied window separately (Niewiadomski 1997). The low frequency spectral level has been used to calculate seismic moment and magnitude (Brune 1970). In order to accelerate magnitude calculation a simple neural network is applied. The network takes filtered and averaged amplitudes of P-wave velocity records as the input data. The training was done on the basis of known examples of several hundred seismograms, where network's weight corrections were calculated by spectral method (Niewiadomski 2000). The performance of the applied neural networks for magnitude calculation is

the same as that of multitaper method. The seismic source radiation pattern is not homogeneous, and it is why the magnitudes calculated by different seismic stations are not the same. Average values of magnitudes are presented in the bulletin.

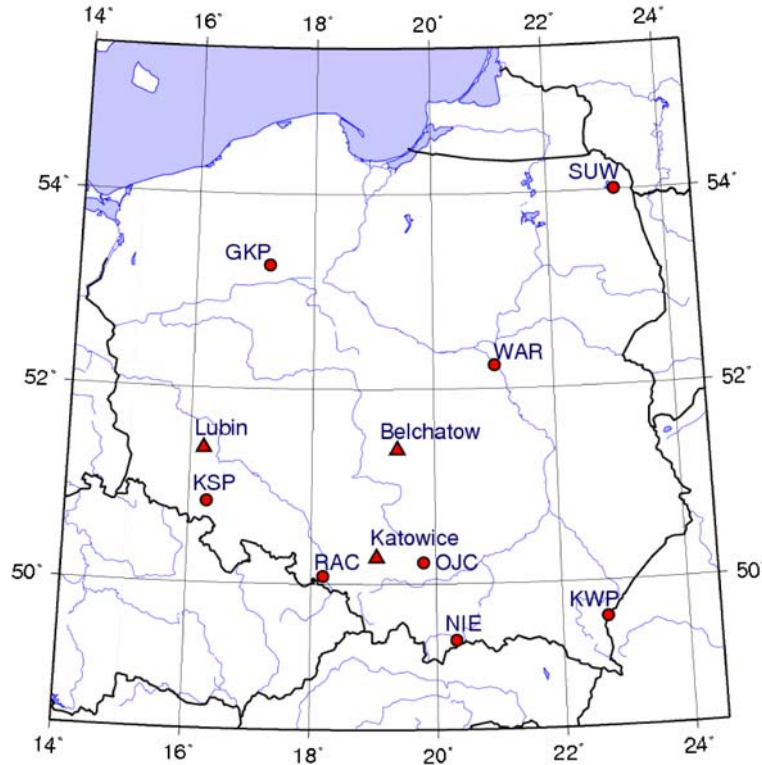


Fig. 1. Seismic stations operated by the Institute of Geophysics, Polish Academy of Sciences (●), and local seismic networks operated by mines (▲).

2. Interpretation of P and S waves

In the light of results provided by seismic refraction and wide angle reflection experiment CELEBRATION 2000 (Guterch *et al.* 2003), interpretation of seismic waves recorded in Poland at regional distances, between about 180 km and 600 km, were revised by Guterch (2007). Generally, at regional distances of more than about 180 km, direct Pg wave does not occur in first arrivals and follows the Pn wave. First arrivals of Pn waves are weak and have been recorded in Poland only for earthquakes with magnitude $M > 2.7$. According to record sections along profile CEL05 (Grad *et al.* 2006), the longest seismic profile in Central Europe, extending from the East European Craton across the Trans European Suture Zone, Carpathians, to the Panonian Basin, Pn is usually followed by much stronger reflected wave from the Moho PmP, or twice reflected wave from the Moho PmPPmP. These waves are

interpreted as Pg in routine seismic bulletins according to the Jeffreys–Bullen or Herrin travel times, available for distances up to about 800 km. Pg waves at these distances, according to record sections of profile CEL05, are too weak to be recorded and are overlaid by much dynamically stronger PmP and PmPPmP waves. At distances of more than about 450–460 km, the P wave, i.e., the lithospheric wave, should be recorded in first arrivals. The same concerns, in general, the S waves. The Sn wave is followed according to CEL05 data by much stronger wave SmS reflected from the Moho, interpreted in routine seismic bulletins according to Jeffreys–Bullen and Herrin travel times as Sg. Wave Sg is too weak to be recorded according to CEL05 travel sections. At distances of more than about 450–460 km, the S wave, i.e., the lithospheric wave, should be recorded in first S arrivals.

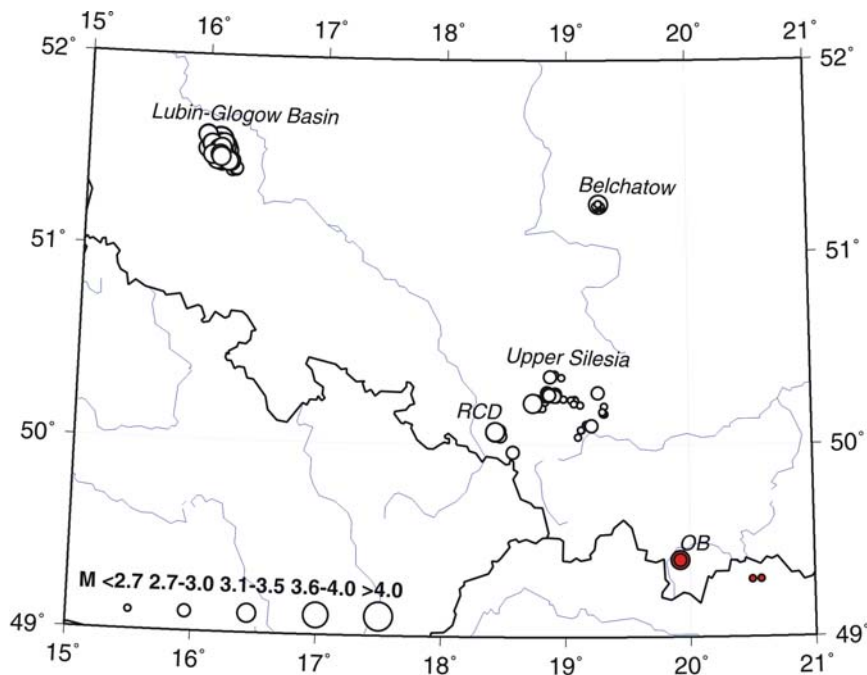


Fig. 2. Epicentres of earthquakes recorded in 2005 by Polish seismic network. ○ – mining induced seismic events: the Upper Silesia Coal Basin (US), Rybnik Coal District (RCD), Lubin-Głogów Copper Basin (LGB), and Belchatów Open-Pit Mining area. ● – local tectonic earthquakes.

It seems that at regional distances of more than about 180 km the onsets interpreted as Pg and Sg phases are probably arrivals of waves PmP, or PmPPmP and SmS, i.e., reflected from the Moho.

The interpretation of phases given in the bulletin is made according to Jeffreys–Bullen and Herrin travel times. Only for earthquakes in the Orawa Basin, Western Carpathians, the suggested interpretation of waves PmP/PmPPmP and SmS instead of Pg and Sg is done.

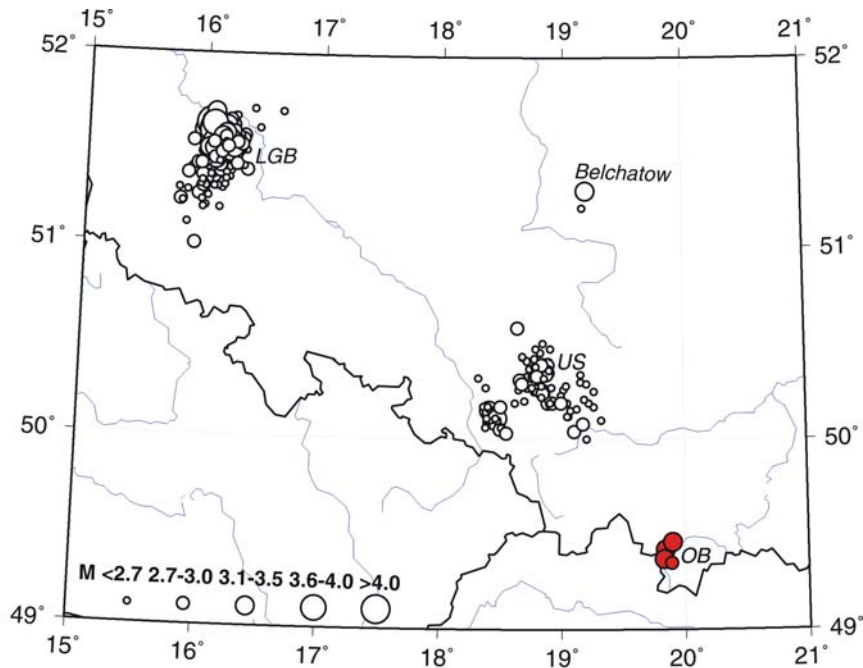


Fig. 3. Epicentres of earthquakes recorded in 2005 by NEIC. ○ – mining induced seismic events: the Upper Silesia Coal Basin (US), Lubin-Głogów Copper Basin (LGB), and Belchatów Open-Pit Mining area. ● – tectonic earthquakes recorded in the Orawa-Nowy Targ Basin (OB), Western Carpathians.

3. Induced seismicity

Out of several thousand of seismic events induced by mining in Poland each year, only those with magnitude $M > 2.6$ for the Lubin-Głogów Copper Basin and with $M > 2.0$ for the Upper Silesia Coal Basin and Rybnik Coal District are listed in this bulletin. Occasionally, quakes of lower magnitude for the Lubin-Głogów Copper Basin have been given if the event was recorded by the NEIC Monthly Listing.

3.1 Upper Silesia and Rybnik Coal District

Epicentral location of Upper Silesian and Rybnik Coal District earthquakes was made by the Central Mining Institute in Katowice. Only if such data were missing, the coordinates were estimated at the Institute of Geophysics. The epicenters determined at the Central Mining Institute are labelled (GIG). The other two source parameters, the time of origin and magnitude, are determined at the Institute of Geophysics. The origin times are based on the Pg and Sg arrivals recorded at stations OJC, NIE, KSP, and RAC. Seismic events with magnitude $M > 2.4$ recorded in the Upper Silesia and Rybnik Coal District in 2005 are presented in Fig. 4.

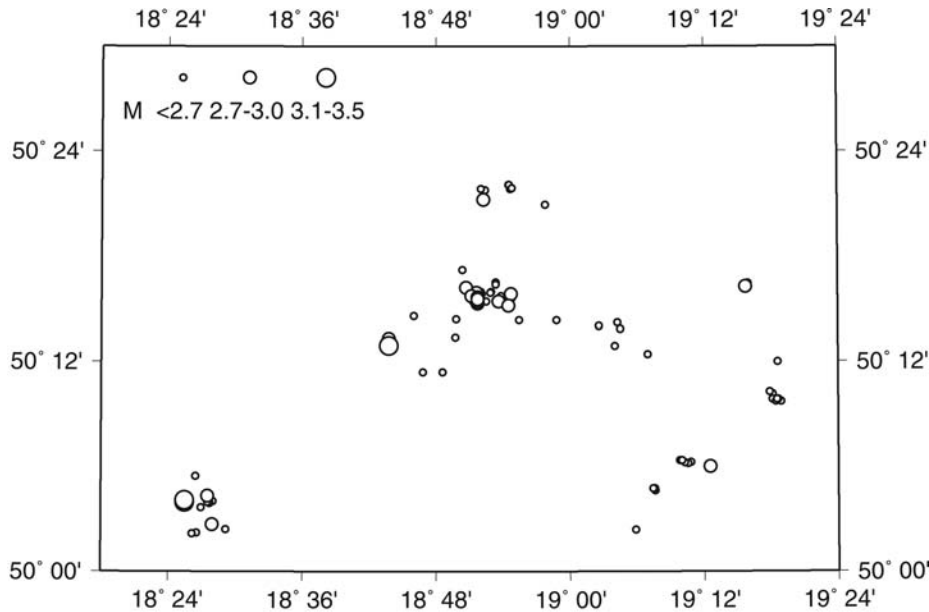


Fig. 4. Mining induced earthquakes recorded in the Upper Silesia and Rybnik Coal District in 2005. Epicentral location of earthquakes made by mining networks of the Central Mining Institute in Katowice.

3.2 Lubin-Głogów Copper Basin

Epicentral locations of tremors from the Lubin-Głogów Copper Basin were made by the Copper Mining-Metallurgical Company in Lubin on the basis of the local seismic networks at Lubin, Polkowice, Rudna and Sieroszowice mines. The average accuracy of epicenter location is about 50 m and occasionally even 20 m. Most of seismic events in the Lubin-Głogów Copper Basin occur at depths between 500 and 1000 m. The other two source parameters, the time of origin and magnitude, are determined at the Institute of Geophysics. The origin times are estimated from the arrival times of the Pg waves recorded by KSP assuming Pg velocity of 6.1 km/s. Seismic events with magnitude $M > 2.7$ recorded in the Lubin-Głogów Copper Basin in 2005 are presented in Fig. 5. All these events occurred within the area of the Lubin-Głogów copper mines. Dispersion of epicentres follows NW-SE direction, and the area of earthquake occurrences is about 25 km long (see also Fig. 2). NEIC epicentres of events in the Lubin-Głogów Copper Basin are widely dispersed NE-SW and could delineate an artificial seismic line, about 100 km long, in SW Poland (see Fig. 3).

A general interpretation of Lubin-Głogów earthquakes recorded by NIE and RAC is given i.e., phases P and S, and occasionally phases Pn and Sn for stronger events of $M > 2.7$.

3.3 Bełchatów Open-Pit Mining area

Epicentral location and time of origin of the Bełchatów earthquakes were made at the Bełchatów Open-Pit Coal Mine on the basis of the local seismic network.

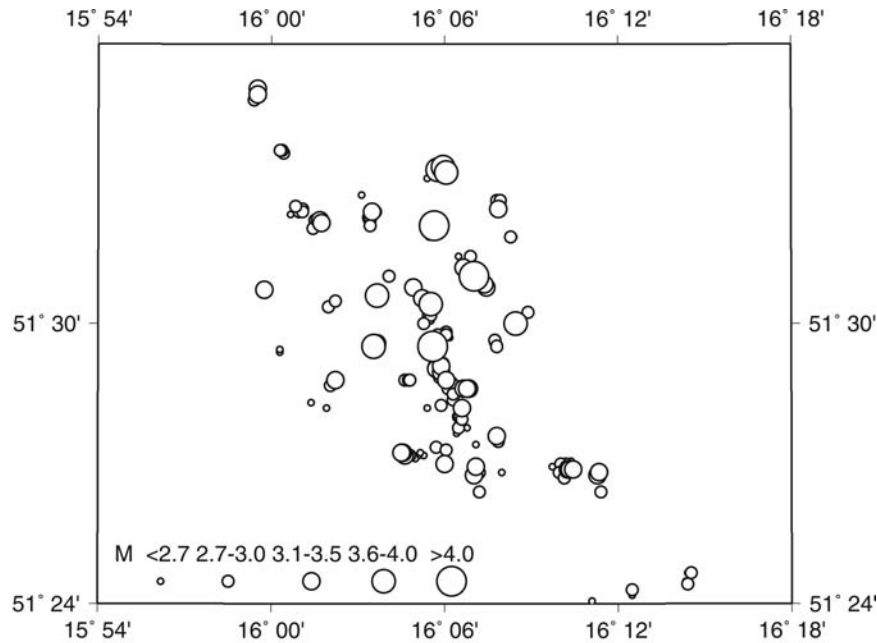


Fig. 5. Mining induced earthquakes recorded in the Lubin-Głogów Copper Basin in 2005. Epicentral location of earthquakes made by mining networks of the Copper Mining-Metallurgical Company in Lubin.

4. Local tectonic earthquakes

The series of earthquakes that began on November 30, 2004, occurred in the southern margin of the Orawa-Nowy Targ Basin, in the area where the Pieniny Klippen Belt is expected to be crossed by the Ruženberok-Mszana-Dolna deep fault (Guterch 2006). Local seismic events of $M \leq 3.3$ were observed there on September 1995 (Guterch *et al.* 2005). The main earthquake of November 30, 2004 was followed by long series of aftershocks. The strongest aftershocks occurred in year 2004 on December 2 of $M = 3.6$, December 9 of $M = 3.4$, and in the year 2005 on January 23, January 29, and June 2 of $M = 3.1$, 3.4 , 3.2 , respectively.

Out of 270 events, 44% occurred within 24 hours after the strongest one. Every aftershock of magnitude $M_L > 2.5$ was followed by increased seismic activity and was recorded by a sufficient number of stations to determine the epicenter data. Epicenters of seismic events were determined after records of the nearest stations in the Czech Republic, Poland and Slovakia, by Dębski *et al.* (1997) method, assuming the mean Moho depth $h = 35$ km. Seismic events of $M < 2.0$ were recorded only by station NIE. Only two events, on February 18, 2005 of $M = 2.7$ and $M = 2.5$, originated from another source, about 7 km west from the epicenter of the main earthquake of November 30, 2004.

The area where the strongest aftershocks occurred is the same as for the main earthquake, i.e., SE of Czarny Dunajec bounded by the villages: Bystre Stare Górne,

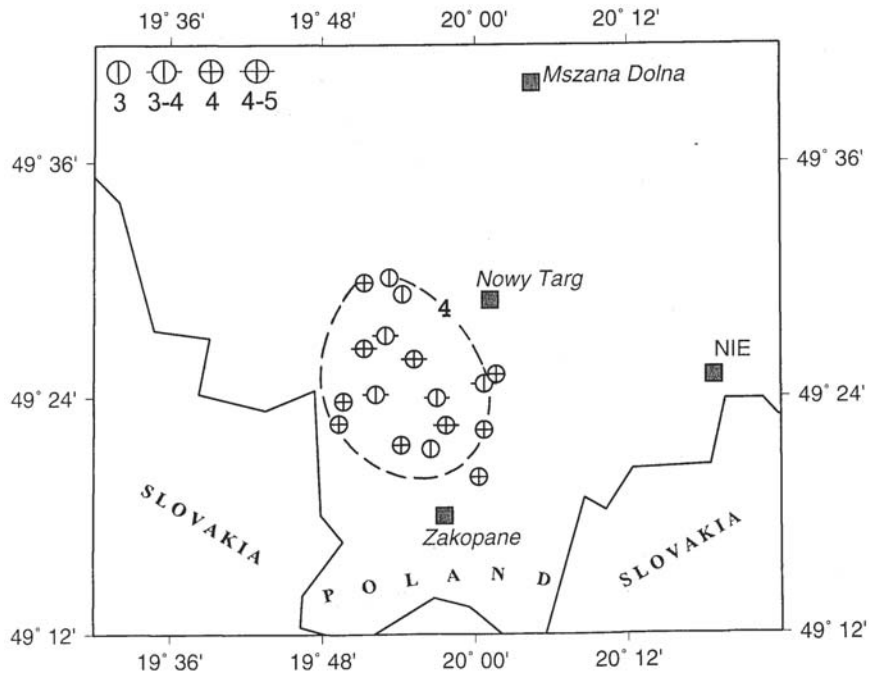


Fig. 6. Macro seismic map in the EMS-98 scale of the earthquake of $M = 3.1$, $I_o = 4-5$ recorded in the Orawa-Nowy Targ Basin, Western Carpathians, on January 23, 2005.

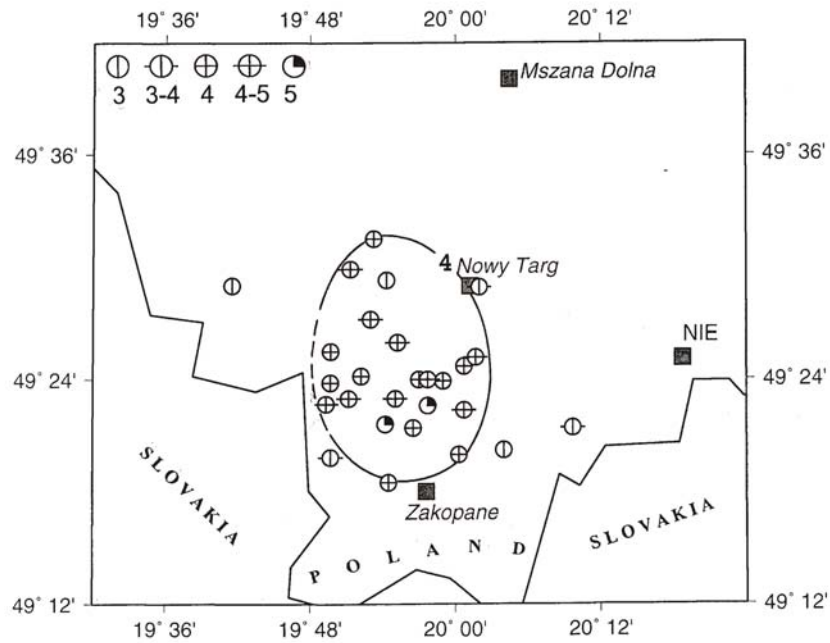


Fig. 7. Macro seismic map in the EMS scale of the earthquake of $M = 3.4$, $I_o = 5$ recorded in the Orawa-Nowy Targ Basin, Western Carpathians, on January 29, 2005.

Czerwienne, Ratułów, Sierockie, Skrzypne Dolne, Skrzypne Górne, Ciche Dolne and Ciche Górne. Intensities did not exceed $I = 5$ EMS. On November 30, 2004, most houses in this area sustained damage of grade 1 and many of grade 2 in the EMS scale. Intensities were strongly attenuated with distance and aftershocks were not felt 20 km from the epicenter.

Macroseismic epicenters, the same for the main earthquake and aftershocks, are also given in the bulletin. The foci of earthquakes are shallow, less than 5 km, originated in the Podhale Flysch basement of the Orawa-Nowy Targ Basin. The macroseismic maps in the EMS-98 scale of the strongest aftershocks recorded in year 2005, on January 23 and January 29 are presented in Fig. 6 and Fig. 7, respectively.

The last local tectonic events in 2005 occurred SE of station Niedzica in the Pieniny Klipper Belt region. These events were not recorded by NEIC.

The bulletin was prepared by Danuta Cerlica for induced earthquakes in Upper Silesia Coal Basin and by Ewa Tomaszewska in the Lubin-Głogów Copper Basin.

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JAN 3

GIG: $\varphi = 50.162^{\circ}\text{N}$, $\lambda = 19.315^{\circ}\text{E}$
H = 15:47:01.0, M = 2.5

OJC $\Delta = 35\text{km}$
Pg eZ 15 47 06.7
Sg iN 47 11.3

NIE $\Delta = 109\text{km}$
Pg eZ 15 47 19.8
Sg eE 47 34.4

KSP $\Delta = 227\text{km}$
Pg eNEZ 15 47 40.2
Sn eNEZ 48 04.6

JAN 3

GIG: $\varphi = 50.262^{\circ}\text{N}$, $\lambda = 18.864^{\circ}\text{E}$
H = 16:21:01.1, M = 2.2

OJC $\Delta = 67\text{km}$
Pg eZ 16 21 13.7
Sg iE 21 21.7

NIE $\Delta = 140\text{km}$
Pg eZ 16 21 25.8
Sg eE 21 44.0

KSP $\Delta = 193\text{km}$
Pg eNEZ 16 21 33.7
Sg eNEZ 21 56.4

JAN 4

GIG: $\varphi = 50.233^{\circ}\text{N}$, $\lambda = 19.035^{\circ}\text{E}$
H = 10:14:49.4, M = 2.3

OJC $\Delta = 55\text{km}$
Pg eZ 10 14 59.4
Sg eN 15 06.9

NIE $\Delta = 129\text{km}$
Pg eZ 10 15 12.0
(Sg) eE 15 29.2

KSP $\Delta = 205\text{km}$
Pg eNEZ 10 15 23.6
Sg eNEZ 15 49.4

JAN 4

$\varphi = 50.20^{\circ}\text{N}$, $\lambda = 19.31^{\circ}\text{E}$
H = 16:56:09.0, M = 2.5

OJC $\Delta = 34\text{km}$
Pg eZ 16 56 15.0
Sg eN 56 19.7

NIE $\Delta = 113\text{km}$
Pg eZ 16 56 28.2
Sg eE 56 43.4

KSP $\Delta = 226\text{km}$
Pg eNEZ 16 56 47.9
Sn eNEZ 57 12.7

JAN 5

GIG: $\varphi = 50.261^{\circ}\text{N}$, $\lambda = 18.863^{\circ}\text{E}$
H = 05:03:15.8, M = 2.0

OJC $\Delta = 67\text{km}$
Pg eZ 05 03 28.5
Sg eE 03 36.2

NIE $\Delta = 140\text{km}$
Pg eZ 05 03 40.0
Sg eE 03 58.3

KSP $\Delta = 193\text{km}$
Pg eNEZ 05 03 48.4
Sg eNEZ 04 11.9

JAN 5

GIG: $\varphi = 50.067^{\circ}\text{N}$, $\lambda = 18.462^{\circ}\text{E}$
H = 13:32:34.1, M = 2.5

RAC $\Delta = 19\text{km}$
Pg eZ 13 32 38.5
Sg eNE 32 41.9

OJC $\Delta = 97\text{km}$
Pg eZ 13 32 50.6
Sg eN 33 02.7

NIE $\Delta = 151\text{km}$
Pg eZ 13 33 00.3
Sg eEN 33 19.4

KSP $\Delta = 177\text{km}$
Pn eNEZ 13 33 02.2
Sg eNEZ 33 24.5

JAN 5

$\varphi = 50.24^{\circ}\text{N}$, $\lambda = 19.01^{\circ}\text{E}$
H = 18:35:15.3, M = 2.2

OJC $\Delta = 56\text{km}$
Pg eZ 18 35 25.4
Sg eN 35 32.8

NIE $\Delta = 132\text{km}$
Pg eZ 18 35 38.0
Sg eE 35 55.5

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KSP $\Delta = 204\text{km}$
Pg eNEZ 18 35 49.8
Sg eNEZ 36 14.2

JAN 5

GIG: $\varphi = 50.164^\circ\text{N}$, $\lambda = 19.311^\circ\text{E}$
H = 19:47:46.7, **M = 2.5**

OJC $\Delta = 35\text{km}$
Pg eZ 19 47 53.1
Sg eN 47 57.8

NIE $\Delta = 110\text{km}$
Pg eZ 19 48 05.7
(Sg) eE 48 20.8

KSP $\Delta = 226\text{km}$
Pn eNEZ 19 48 24.7
Sn eNEZ 48 49.8
Sg eNEZ 48 52.7

JAN 5

GIG: $\varphi = 50.263^\circ\text{N}$, $\lambda = 18.897^\circ\text{E}$
H = 23:50:55.4, **M = 2.2**

OJC $\Delta = 64\text{km}$
Pg eZ 23 51 07.1
Sg eE 51 15.4

NIE $\Delta = 138\text{km}$
Pg eZ 23 51 19.4
Sg eN 51 37.4

KSP $\Delta = 196\text{km}$
Pg eNEZ 23 51 28.5
Sn eNEZ 51 50.3

JAN 6

GIG: $\varphi = 50.261^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$
H = 20:24:25.6, **M = 2.3**

OJC $\Delta = 66\text{km}$
Pg eZ 20 24 37.7
Sg eN 24 46.0

NIE $\Delta = 140\text{km}$
Pg eZ 20 24 50.6
Sg eE 25 08.1

KSP $\Delta = 193\text{km}$
Pg eNEZ 20 24 58.5
Sg eNEZ 25 21.4

JAN 7

GIG: $\varphi = 50.262^\circ\text{N}$, $\lambda = 18.861^\circ\text{E}$
H = 14:33:17.6, **M = 2.5**

OJC $\Delta = 67\text{km}$
Pg eZ 14 33 29.9
Sg eE 33 38.4

NIE $\Delta = 140\text{km}$
Pg eZ 14 33 42.2
Sg eN 34 00.2

KSP $\Delta = 193\text{km}$
Pg eNEZ 14 33 50.4
Sg eNEZ 34 13.3

JAN 7

GIG: $\varphi = 50.066^\circ\text{N}$, $\lambda = 18.462^\circ\text{E}$
H = 15:00:37.4, **M = 2.4**

RAC $\Delta = 19\text{km}$
Pg iZ 15 00 41.8 D
Sg iN 00 45.2

OJC $\Delta = 97\text{km}$
Pg eZ 15 00 54.4
Sg eN 01 06.3

NIE $\Delta = 152\text{km}$
Pg eZ 15 01 03.6
Sg eN 01 22.6

KSP $\Delta = 176\text{km}$
Pg eZ 15 01 07.1
Sg eNEZ 01 27.7

JAN 7

GIG: $\varphi = 50.223^\circ\text{N}$, $\lambda = 19.013^\circ\text{E}$
H = 15:54:28.4, **M = 2.3**

OJC $\Delta = 56\text{km}$
Pg eZ 15 54 38.6
Sg eN 54 46.1

NIE $\Delta = 130\text{km}$
Pg eZ 15 54 51.7
Sg eE 55 07.5

KSP $\Delta = 204\text{km}$
Pg eNEZ 15 55 02.6
Sg eNEZ 55 27.6

JAN 7

GIG: $\varphi = 50.162^\circ\text{N}$, $\lambda = 19.311^\circ\text{E}$
H = 22:38:55.6, **M = 2.5**

OJC $\Delta = 35\text{km}$
Pg eZ 22 39 01.1
Sg eN 39 05.8

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NIE	$\Delta = 110\text{km}$			
Pg	eZ	22	39	13.6
Sg	eE		39	29.1
KSP	$\Delta = 227\text{km}$			
Pn	eEZ	22	39	32.1
Pg	eNEZ		39	35.1
Sn	eNEZ		39	55.1
JAN 7				
GIG:	$\varphi = 50.066^\circ\text{N}$, $\lambda = 18.466^\circ\text{E}$			
	$H = 22:47:13.5$, $M = 2.4$			
RAC	$\Delta = 20\text{km}$			
Pg	eZ	22	47	17.9
Sg	iN		47	21.4
OJC	$\Delta = 97\text{km}$			
Pg	eZ	22	47	30.3
Sg	eE		47	42.4
NIE	$\Delta = 152\text{km}$			
Pg	eZ	22	47	39.9
Sg	eE		47	58.7
KSP	$\Delta = 176\text{km}$			
Pg	eEZ	22	47	43.5
Sg	eNEZ		48	03.8
JAN 8				
	$\varphi = 50.09^\circ\text{N}$, $\lambda = 18.44^\circ\text{E}$			
	$H = 04:04:58.6$, $M = 2.2$			
RAC	$\Delta = 17\text{km}$			
Pg	iZ	04	05	02.4 D
Sg	eNE		05	05.6
OJC	$\Delta = 98\text{km}$			
Pg	eZ	04	05	15.2
Sg	eN		05	28.4
NIE	$\Delta = 155\text{km}$			
Pg	eZ	04	05	25.3
Sg	eE		05	45.0
JAN 8				
GIG:	$\varphi = 50.276^\circ\text{N}$, $\lambda = 18.835^\circ\text{E}$			
	$H = 21:46:09.4$, $M = 2.2$			
OJC	$\Delta = 70\text{km}$			
Pg	eZ	21	46	22.5
Sg	eN		46	31.4
NIE	$\Delta = 143\text{km}$			
Pg	eZ	21	46	34.2
Sg	eE		46	52.3

KSP	$\Delta = 190\text{km}$			
Pg	eNEZ	21	46	41.4
Sg	eNEZ		47	04.1
JAN 9				
	$\varphi = 50.19^\circ\text{N}$, $\lambda = 19.29^\circ\text{E}$			
	$H = 09:55:46.4$, $M = 2.3$			
OJC	$\Delta = 36\text{km}$			
Pg	eZ	09	55	53.0
Sg	eN		55	57.7
NIE	$\Delta = 112\text{km}$			
Pg	eZ	09	56	05.5
Sg	eE		56	20.4
KSP	$\Delta = 225\text{km}$			
Pg	eNEZ	09	56	25.6
Sg	eNEZ		56	50.7
JAN 10				
	$\varphi = 50.18^\circ\text{N}$, $\lambda = 19.31^\circ\text{E}$			
	$H = 16:07:17.3$, $M = 2.4$			
OJC	$\Delta = 35\text{km}$			
Pg	eZ	16	07	23.1
Sg	eN		07	27.7
NIE	$\Delta = 111\text{km}$			
Pg	eZ	16	07	36.1
Sg	eE		07	50.7
KSP	$\Delta = 226\text{km}$			
Pn	eEZ	16	07	54.2
Pg	eNEZ		07	56.3
(Sn)	eNEZ		08	19.9
JAN 10				
GIG:	$\varphi = 50.232^\circ\text{N}$, $\lambda = 19.034^\circ\text{E}$			
	$H = 20:27:38.1$, $M = 2.4$			
OJC	$\Delta = 55\text{km}$			
Pg	eZ	20	27	48.1
Sg	eN		27	55.6
NIE	$\Delta = 129\text{km}$			
Pg	eZ	20	28	00.4
Sg	eN		28	17.3
KSP	$\Delta = 205\text{km}$			
Pg	eNEZ	20	28	12.8
(Sg)	eNEZ		28	36.6

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JAN 11

GIG: $\varphi = 50.162^\circ\text{N}$, $\lambda = 19.316^\circ\text{E}$
H = 05:18:40.0, M = 2.5

OJC $\Delta = 35\text{km}$
Pg eZ 05 18 45.8
Sg eN 18 50.4

NIE $\Delta = 110\text{km}$
Pg eZ 05 18 58.3
Sg eN 19 13.7

KSP $\Delta = 227\text{km}$
Pg eNEZ 05 19 18.2
Sn eN 19 43.3

JAN 11

GIG: $\varphi = 50.041^\circ\text{N}$, $\lambda = 18.469^\circ\text{E}$
H = 18:06:41.8, M = 2.2

RAC $\Delta = 20\text{km}$
Pg eZ 18 06 46.4
Sg eNE 06 49.4

OJC $\Delta = 97\text{km}$
Pg eZ 18 06 58.9
Sg eE 07 10.5

NIE $\Delta = 150\text{km}$
Pg eZ 18 07 08.5
Sg eN 07 27.3

KSP $\Delta = 178\text{km}$
Pg eNEZ 18 07 11.6
Sg eNEZ 07 32.9

JAN 11

GIG: $\varphi = 50.104^\circ\text{N}$, $\lambda = 19.180^\circ\text{E}$
H = 23:19:06.2, M = 2.5

OJC $\Delta = 47\text{km}$
Pg eZ 23 19 14.2
Sg eE 19 20.5

RAC $\Delta = 70\text{km}$
Pg eZ 23 19 18.5
Sg eN 19 28.1

NIE $\Delta = 112\text{km}$
Pg eZ 23 19 25.1
Sg eN 19 40.4

KSP $\Delta = 220\text{km}$
Pg eNEZ 23 19 44.0
Sn eNEZ 20 08.5

JAN 12

GIG: $\varphi = 50.162^\circ\text{N}$, $\lambda = 19.311^\circ\text{E}$
H = 21:39:18.0, M = 2.6

OJC $\Delta = 36\text{km}$
Pg eZ 21 39 24.8
Sg eE 39 29.4

NIE $\Delta = 110\text{km}$
Pg eZ 21 39 37.3
(Sg) eE 39 52.9

KSP $\Delta = 226\text{km}$
Pg eNEZ 21 39 55.9
Sn eNEZ 40 21.4
Sg eNEZ 40 22.5

JAN 13

GIG: $\varphi = 50.066^\circ\text{N}$, $\lambda = 18.425^\circ\text{E}$
H = 17:34:38.8, M = 3.3

RAC $\Delta = 17\text{km}$
Pg iZ 17 34 42.7 C
Sg eNE 34 45.8

OJC $\Delta = 99\text{km}$
Pg iZ 17 34 55.7 D
Sg eN 35 08.6

NIE $\Delta = 154\text{km}$
Pg eZ 17 35 04.6
Sg eE 35 25.4

KSP $\Delta = 174\text{km}$
Pn eNEZ 17 35 06.7
Pg eNEZ 35 08.0
Sn eNEZ 35 27.6
Sg eNEZ 35 29.0

KWP $\Delta = 310\text{km}$
Pn eZ 17 35 26.1
Pg eZ 35 37.8
Sn eNE 36 16.8

GKP $\Delta = 366\text{km}$
Pn eZ 17 35 30.0
Pg eZ 35 46.5
Sn eNE 36 19.1

SUW $\Delta = 546\text{km}$
Pn eZ 17 35 58.0
Pg eZ 36 16.3
Sn eNE 37 24.1

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JAN 13

$\varphi = 50.38^{\circ}\text{N}$, $\lambda = 18.95^{\circ}\text{E}$
H = 18:29:33.1, M = 2.3

OJC $\Delta = 63\text{km}$
 Pg eZ 18 29 44.5
 Sg eE 29 52.8

NIE $\Delta = 146\text{km}$
 Pg eZ 18 29 58.5
 Sg eE 30 17.5

KSP $\Delta = 195\text{km}$
 Pg eZ 18 30 05.7
 Sg eNEZ 30 29.8

JAN 14

GIG: $\varphi = 50.163^{\circ}\text{N}$, $\lambda = 19.317^{\circ}\text{E}$
H = 00:39:49.3, M = 2.3

OJC $\Delta = 35\text{km}$
 Pg eZ 00 39 55.0
 Sg eN 40 00.1

NIE $\Delta = 109\text{km}$
 Pg eZ 00 40 07.6
 (Sg) eE 40 23.1

KSP $\Delta = 227\text{km}$
 Pg eNEZ 00 40 28.7
 Sg eN 40 54.7

JAN 14

$\varphi = 50.27^{\circ}\text{N}$, $\lambda = 19.00^{\circ}\text{E}$
H = 04:02:22.6, M = 2.1

OJC $\Delta = 57\text{km}$
 Pg eZ 04 02 33.2
 Sg iN 02 40.3

NIE $\Delta = 133\text{km}$
 Pg eZ 04 02 46.3
 Sg eE 03 02.6

KSP $\Delta = 202\text{km}$
 Pg eNEZ 04 02 56.9
 Sg eNEZ 03 21.0

JAN 14

GIG: $\varphi = 50.068^{\circ}\text{N}$, $\lambda = 18.460^{\circ}\text{E}$
H = 04:59:21.0, M = 2.1

RAC $\Delta = 19\text{km}$
 Pg eZ 04 59 25.2
 Sg eNE 59 28.6

OJC $\Delta = 97\text{km}$
 Pg eZ 04 59 37.6
 Sg eE 59 50.0

NIE $\Delta = 152\text{km}$
 Pg eZ 04 59 47.4
 (Sg) eE 05 00 07.9

JAN 14

GIG: $\varphi = 50.261^{\circ}\text{N}$, $\lambda = 18.862^{\circ}\text{E}$
H = 13:07:49.1, M = 2.2

OJC $\Delta = 67\text{km}$
 Pg eZ 13 08 01.7
 Sg eE 08 09.6

NIE $\Delta = 140\text{km}$
 Pg eZ 13 08 13.7
 Sg eE 08 31.8

KSP $\Delta = 193\text{km}$
 Pg eNEZ 13 08 21.7
 Sg eNEZ 08 44.3

JAN 14

GIG: $\varphi = 50.164^{\circ}\text{N}$, $\lambda = 19.316^{\circ}\text{E}$
H = 15:46:53.1, M = 2.4

OJC $\Delta = 35\text{km}$
 Pg eZ 15 46 59.3
 Sg eN 47 04.4

NIE $\Delta = 110\text{km}$
 Pg eZ 15 47 13.2
 (Sg) eN 47 27.4

KSP $\Delta = 226\text{km}$
 (Pn) eNEZ 15 47 28.0
 Pg eE 47 30.9
 (Sg) eN 47 57.3

JAN 14

GIG: $\varphi = 50.258^{\circ}\text{N}$, $\lambda = 18.888^{\circ}\text{E}$
H = 23:38:21.0, M = 2.4

RAC $\Delta = 54\text{km}$
 Pg eZ 23 38 31.2
 Sg eNE 38 37.9

OJC $\Delta = 65\text{km}$
 Pg eZ 23 38 32.9
 Sg eN 38 41.3

NIE $\Delta = 139\text{km}$
 Pg eZ 23 38 45.3
 Sg eE 39 03.6

KSP $\Delta = 195\text{km}$
 Pg eNEZ 23 38 54.1
 Sg eNEZ 39 17.3

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JAN 14

GIG: $\varphi = 50.103^\circ\text{N}$, $\lambda = 19.179^\circ\text{E}$
H = 23:55:30.2, M = 2.3

OJC $\Delta = 46\text{km}$
Pg eZ 23 55 38.0
Sg eN 55 44.1

NIE $\Delta = 112\text{km}$
Pg eZ 23 55 49.4
(Sg) eN 56 04.9

KSP $\Delta = 221\text{km}$
Pg eNEZ 23 56 07.8
Sn eNEZ 56 32.1

JAN 15

GIG: $\varphi = 50.066^\circ\text{N}$, $\lambda = 18.462^\circ\text{E}$
H = 00:41:45.8, M = 2.6

RAC $\Delta = 19\text{km}$
Pg iZ 00 41 50.2 D
Sg iN 41 53.6

OJC $\Delta = 97\text{km}$
Pg eZ 00 42 02.4
Sg eE 42 14.8

NIE $\Delta = 151\text{km}$
Pg eZ 00 42 11.9
Sg eN 42 31.0

KSP $\Delta = 177\text{km}$
Pn eZ 00 42 14.7
Sg eN 42 36.1

JAN 17

GIG: $\varphi = 50.162^\circ\text{N}$, $\lambda = 19.316^\circ\text{E}$
H = 16:57:04.8, M = 2.4

OJC $\Delta = 35\text{km}$
Pg iZ 16 57 10.1 D
Sg eN 57 14.8

NIE $\Delta = 110\text{km}$
Pg eZ 16 57 23.7
Sg eN 57 38.6

KSP $\Delta = 227\text{km}$
Pn eZ 16 57 40.6
Pg eZ 57 43.8
Sn eNEZ 58 07.7

JAN 17

GIG: $\varphi = 50.239^\circ\text{N}$, $\lambda = 18.924^\circ\text{E}$
H = 21:25:34.5, M = 2.6

RAC $\Delta = 55\text{km}$
Pg eZ 21 25 44.8
Sg eNE 25 52.5

OJC $\Delta = 62\text{km}$
Pg eZ 21 25 45.9
Sg eEN 25 53.9

NIE $\Delta = 136\text{km}$
Pg eZ 21 25 58.0
Sg eE 26 15.8

KSP $\Delta = 198\text{km}$
Pn eE 21 26 05.5
Pg eNEZ 26 07.8
Sg eNEZ 26 31.2

KWP $\Delta = 279\text{km}$
Pg eZ 21 26 24.6

JAN 18

$\varphi = 50.26^\circ\text{N}$, $\lambda = 18.90^\circ\text{E}$
H = 07:54:10.2, M = 2.3

OJC $\Delta = 65\text{km}$
Pg eZ 07 54 22.0
Sg eE 54 30.2

NIE $\Delta = 138\text{km}$
Pg eZ 07 54 34.5
Sg eE 54 52.0

KSP $\Delta = 195\text{km}$
Pg eNEZ 07 54 43.6
Sg eNEZ 55 06.4

JAN 18

GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.461^\circ\text{E}$
H = 09:35:43.3, M = 2.3

RAC $\Delta = 19\text{km}$
Pg eZ 09 35 47.7
Sg eNE 35 51.3

OJC $\Delta = 97\text{km}$
Pg eZ 09 36 00.2
Sg eN 36 12.0

NIE $\Delta = 152\text{km}$
Pg eZ 09 36 09.4
Sg eE 36 28.6

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JAN 18

$\varphi = 50.28^\circ\text{N}$, $\lambda = 18.90^\circ\text{E}$
H = 10:07:00.6, M = 2.3

OJC $\Delta = 64\text{km}$
Pg eZ 10 07 12.3
Sg eE 07 20.5

NIE $\Delta = 139\text{km}$
Pg eZ 10 07 24.8
Sg eE 07 42.9

KSP $\Delta = 195\text{km}$
Pg eNEZ 10 07 33.7
Sg eNEZ 07 57.2

JAN 18

$\varphi = 50.23^\circ\text{N}$, $\lambda = 18.85^\circ\text{E}$
H = 13:14:33.9, M = 2.2

OJC $\Delta = 68\text{km}$
Pg eZ 13 14 46.6
Sg eE 14 54.5

NIE $\Delta = 139\text{km}$
Pg eZ 13 14 58.2
Sg eE 15 16.4

KSP $\Delta = 193\text{km}$
Pg eNEZ 13 15 06.6
Sg eNEZ 15 30.1

JAN 18

GIG: $\varphi = 50.232^\circ\text{N}$, $\lambda = 19.038^\circ\text{E}$
H = 14:30:35.2, M = 2.4

OJC $\Delta = 55\text{km}$
Pg eZ 14 30 44.9
Sg eN 30 52.8

NIE $\Delta = 129\text{km}$
Pg eZ 14 30 57.7
Sg eE 31 14.5

KSP $\Delta = 206\text{km}$
Pg eNEZ 14 31 09.6
Sg eNEZ 31 34.1

JAN 18

GIG: $\varphi = 50.163^\circ\text{N}$, $\lambda = 19.317^\circ\text{E}$
H = 17:14:03.5, M = 2.3

OJC $\Delta = 34\text{km}$
Pg eZ 17 14 08.8
Sg eN 14 13.5

NIE $\Delta = 110\text{km}$
Pg eZ 17 14 22.8
(Sg) eN 14 37.5

KSP $\Delta = 227\text{km}$
Pn eNEZ 17 14 40.0
Pg eZ 14 42.8
Sg eE 15 09.3

JAN 18

GIG: $\varphi = 50.233^\circ\text{N}$, $\lambda = 19.037^\circ\text{E}$
H = 21:04:02.3, M = 2.3

OJC $\Delta = 54\text{km}$
Pg eZ 21 04 12.4
Sg eE 04 19.6

NIE $\Delta = 130\text{km}$
Pg eZ 21 04 25.2
Sg eN 04 41.7

KSP $\Delta = 205\text{km}$
Pg eNEZ 21 04 36.9
Sg eNEZ 05 01.4

JAN 19

GIG: $\varphi = 50.266^\circ\text{N}$, $\lambda = 18.778^\circ\text{E}$
H = 18:15:30.6, M = 2.2

OJC $\Delta = 73\text{km}$
Pg eZ 18 15 44.3
Sg eN 15 53.3

NIE $\Delta = 145\text{km}$
Pg eZ 18 15 56.0
Sg eE 16 14.5

KSP $\Delta = 187\text{km}$
Pn eNEZ 18 16 00.3
(Sg) eNEZ 16 23.7

JAN 19

GIG: $\varphi = 50.254^\circ\text{N}$, $\lambda = 18.762^\circ\text{E}$
H = 21:13:38.0, M = 2.2

OJC $\Delta = 74\text{km}$
Pg eZ 21 13 51.5
Sg eN 14 01.2

NIE $\Delta = 145\text{km}$
Pg eZ 21 14 03.2
(Sg) eN 14 22.5

KSP $\Delta = 186\text{km}$
Pg eNEZ 21 14 09.7
Sg eNEZ 14 31.7

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JAN 20

GIG: $\varphi = 50.261^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$
H = 04:35:08.2, M = 2.5

RAC $\Delta = 51\text{km}$
Pg eZ 04 35 18.1
Sg eNE 35 23.6

OJC $\Delta = 67\text{km}$
Pg eZ 04 35 20.5
Sg eN 35 29.0

NIE $\Delta = 140\text{km}$
Pg eZ 04 35 32.9
Sg eN 35 50.5

KSP $\Delta = 193\text{km}$
Pg eNEZ 04 35 41.1
Sg eNEZ 36 03.9

JAN 20

GIG: $\varphi = 50.066^\circ\text{N}$, $\lambda = 18.424^\circ\text{E}$
H = 06:48:46.0, M = 2.3

RAC $\Delta = 16\text{km}$
Pg eZ 06 48 49.7
Sg eNE 48 52.8

OJC $\Delta = 100\text{km}$
Pg eZ 06 49 02.9
Sg eN 49 15.8

NIE $\Delta = 154\text{km}$
Pg eZ 06 49 12.7
Sg eN 49 32.9

KSP $\Delta = 174\text{km}$
Pg eNEZ 06 49 15.8
Sg eNEZ 49 35.9

JAN 20

GIG: $\varphi = 50.103^\circ\text{N}$, $\lambda = 19.178^\circ\text{E}$
H = 18:06:56.3, M = 2.3

OJC $\Delta = 46\text{km}$
Pg eZ 18 07 05.2
Sg eN 07 11.2

NIE $\Delta = 112\text{km}$
Pg eZ 18 07 16.2
(Sg) eE 07 31.0

KSP $\Delta = 220\text{km}$
Pg eNEZ 18 07 33.0
Sn eNEZ 07 58.1

JAN 21

GIG: $\varphi = 50.261^\circ\text{N}$, $\lambda = 18.853^\circ\text{E}$
H = 21:58:41.1, M = 2.2

OJC $\Delta = 68\text{km}$
Pg eZ 21 58 53.9
Sg eN 59 02.0

NIE $\Delta = 141\text{km}$
Pg eZ 21 59 06.0
Sg eE 59 23.7

KSP $\Delta = 192\text{km}$
Pg eNEZ 21 59 13.3
Sg eNEZ 59 36.1

JAN 22

GIG: $\varphi = 50.245^\circ\text{N}$, $\lambda = 18.982^\circ\text{E}$
H = 02:48:11.2, M = 2.3

OJC $\Delta = 58\text{km}$
Pg eZ 02 48 22.0
Sg eN 48 29.7

NIE $\Delta = 133\text{km}$
Pg eZ 02 48 34.8
Sg eN 48 50.7

KSP $\Delta = 202\text{km}$
Pg eNEZ 02 48 45.2
Sg eNEZ 49 09.3

JAN 22

GIG: $\varphi = 50.258^\circ\text{N}$, $\lambda = 18.904^\circ\text{E}$
H = 16:18:54.2, M = 2.3

OJC $\Delta = 64\text{km}$
Pg eZ 16 19 05.9
Sg eN 19 13.7

NIE $\Delta = 138\text{km}$
Pg eZ 16 19 19.0
Sg eE 19 36.1

KSP $\Delta = 196\text{km}$
Pg eNEZ 16 19 27.3
Sg eNEZ 19 50.5

JAN 23

GIG: $\varphi = 50.260^\circ\text{N}$, $\lambda = 18.908^\circ\text{E}$
H = 13:13:13.5, M = 2.3

OJC $\Delta = 63\text{km}$
Pg eZ 13 13 24.6
Sg eN 13 33.7

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NIE	$\Delta = 138\text{km}$ Pg eZ Sg eN	13 13 37.2 13 55.6
KSP	$\Delta = 196\text{km}$ Pn eEZ Pg eNEZ Sn eNEZ	13 13 44.2 13 46.1 14 08.7
<u>JAN 23</u>		
$\varphi = 50.22^\circ\text{N}, \lambda = 18.85^\circ\text{E}$ $H = 21:26:48.2, M = 2.1$		
OJC	$\Delta = 68\text{km}$ Pg eZ Sg eN	21 27 01.2 27 08.8
NIE	$\Delta = 138\text{km}$ Pg eZ Sg eN	21 27 12.9 27 30.2
KSP	$\Delta = 194\text{km}$ Pg eNEZ Sg eNEZ	21 27 20.9 27 43.8
<u>JAN 23</u>		
$\varphi = 50.24^\circ\text{N}, \lambda = 18.85^\circ\text{E}$ $H = 23:51:18.2, M = 2.1$		
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eN	23 51 30.7 51 38.9
NIE	$\Delta = 139\text{km}$ Pg eZ Sg eN	23 51 42.9 52 00.3
KSP	$\Delta = 193\text{km}$ Pg eNEZ Sg eNEZ	23 51 51.3 52 13.9
<u>JAN 24</u>		
GIG: $\varphi = 50.164^\circ\text{N}, \lambda = 19.302^\circ\text{E}$ $H = 16:08:40.7, M = 2.4$		
OJC	$\Delta = 35\text{km}$ Pg eZ Sg eN	16 08 46.6 08 51.4
NIE	$\Delta = 110\text{km}$ Pg eZ Sg eE	16 09 00.2 09 14.5
KSP	$\Delta = 226\text{km}$ Pg eNEZ Sn eNEZ	16 09 19.9 09 44.3

<u>JAN 25</u>		
GIG: $\varphi = 50.258^\circ\text{N}, \lambda = 18.889^\circ\text{E}$ $H = 03:15:20.9, M = 2.6$		
RAC	$\Delta = 53\text{km}$ Pg eZ Sg eNE	03 15 31.5 15 38.6
OJC	$\Delta = 65\text{km}$ Pg eZ Sg eN	03 15 33.1 15 41.5
NIE	$\Delta = 139\text{km}$ Pg eZ Sg eE	03 15 45.7 16 03.1
KSP	$\Delta = 195\text{km}$ Pg eNEZ Sn eNEZ Sg eNEZ	03 15 54.2 16 14.3 16 17.6
KWP	$\Delta = 282\text{km}$ Pg eZ	03 16 12.2
<u>JAN 25</u>		
$\varphi = 50.27^\circ\text{N}, \lambda = 18.92^\circ\text{E}$ $H = 05:16:00.5, M = 2.1$		
OJC	$\Delta = 64\text{km}$ Pg eZ Sg eE	05 16 12.2 16 20.4
NIE	$\Delta = 138\text{km}$ Pg eZ Sg eE	05 16 25.2 16 42.0
KSP	$\Delta = 196\text{km}$ Pg eNEZ Sg eNEZ	05 16 33.6 16 57.1
<u>JAN 25</u>		
$\varphi = 50.17^\circ\text{N}, \lambda = 19.32^\circ\text{E}$ $H = 16:02:15.0, M = 2.3$		
OJC	$\Delta = 34\text{km}$ Pg iZ Sg iN	16 02 20.6 D 02 25.4
NIE	$\Delta = 110\text{km}$ Pg eZ Sg eE	16 02 33.5 02 48.3
KSP	$\Delta = 227\text{km}$ Pg eNEZ Sn eNEZ	16 02 54.5 03 18.2

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JAN 25

GIG: $\varphi = 50.052^\circ\text{N}$, $\lambda = 18.453^\circ\text{E}$
H = 17:31:42.9, M = 2.1

RAC $\Delta = 18\text{km}$
 Pg iZ 17 31 46.8 D
 Sg eNE 31 50.0

OJC $\Delta = 98\text{km}$
 Pg eZ 17 31 59.7
 Sg eN 32 12.8

NIE $\Delta = 152\text{km}$
 Pg eZ 17 32 09.8
 Sg eNE 32 29.0

JAN 25

GIG: $\varphi = 50.066^\circ\text{N}$, $\lambda = 18.460^\circ\text{E}$
H = 18:31:01.5, M = 2.5

RAC $\Delta = 19\text{km}$
 Pg iZ 18 31 06.0 D
 Sg eNE 31 09.4

OJC $\Delta = 97\text{km}$
 Pg eZ 18 31 18.2
 Sg eN 31 30.1

NIE $\Delta = 152\text{km}$
 Pg eZ 18 31 28.1
 Sg eE 31 47.0

KSP $\Delta = 176\text{km}$
 Pn eNEZ 18 31 29.9
 Sg eNEZ 31 52.0

JAN 25

GIG: $\varphi = 50.248^\circ\text{N}$, $\lambda = 18.709^\circ\text{E}$
H = 19:18:30.0, M = 2.4

OJC $\Delta = 78\text{km}$
 Pg eZ 19 18 44.9
 (Sg) eN 18 55.4

NIE $\Delta = 148\text{km}$
 Pg eZ 19 18 56.6
 Sg eE 19 15.0

KSP $\Delta = 183\text{km}$
 Pg eNEZ 19 19 00.7
 Sg eNEZ 19 23.0

JAN 26

GIG: $\varphi = 50.040^\circ\text{N}$, $\lambda = 18.469^\circ\text{E}$
H = 00:36:07.2, M = 2.2

RAC $\Delta = 20\text{km}$
 Pg iZ 00 36 11.6 D
 Sg eNE 36 15.3

OJC $\Delta = 97\text{km}$
 Pg eZ 00 36 24.1
 Sg eE 36 36.9

NIE $\Delta = 150\text{km}$
 Pg eZ 00 36 33.9
 Sg eN 36 52.5

KSP $\Delta = 178\text{km}$
 Pn eNEZ 00 36 35.4
 Sg eNEZ 36 58.1

JAN 26

GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.888^\circ\text{E}$
H = 07:52:32.4, M = 2.5

OJC $\Delta = 65\text{km}$
 Pg eZ 07 52 44.3
 Sg eN 52 52.7

NIE $\Delta = 138\text{km}$
 Pg eZ 07 52 56.5
 Sg eE 53 14.5

KSP $\Delta = 195\text{km}$
 Pg eNEZ 07 53 05.6
 Sn eNEZ 53 26.4
 Sg eNEZ 53 28.8

JAN 26

GIG: $\varphi = 50.352^\circ\text{N}$, $\lambda = 18.981^\circ\text{E}$
H = 19:58:50.2, M = 2.3

OJC $\Delta = 60\text{km}$
 Pg eZ 19 58 59.9
 Sg eN 59 08.3

NIE $\Delta = 141\text{km}$
 Pg eZ 19 59 14.5
 Sg eE 59 33.0

KSP $\Delta = 198\text{km}$
 Pg eNEZ 19 59 24.6
 Sg eNEZ 59 46.5

JAN 26

GIG: $\varphi = 50.066^\circ\text{N}$, $\lambda = 18.423^\circ\text{E}$
H = 20:00:02.3, M = 2.2

RAC $\Delta = 17\text{km}$
 Pg eZ 20 00 06.1
 Sg eNE 00 09.2

OJC $\Delta = 99\text{km}$
 Pg eZ 20 00 19.0
 Sg eN 00 32.2

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NIE	$\Delta = 154\text{km}$			
	Pg eZ	20	00	29.1
	Sg eN		00	48.6
JAN 26				
GIG:	$\varphi = 50.234^\circ\text{N}$, $\lambda = 19.038^\circ\text{E}$			
	H = 21:24:07.4 , M = 2.2			
OJC	$\Delta = 55\text{km}$			
	Pg eZ	21	24	17.5
	Sg eE		24	24.8
NIE	$\Delta = 130\text{km}$			
	Pg eZ	21	24	30.1
	Sg eN		24	46.7
KSP	$\Delta = 205\text{km}$			
	Pg eNEZ	21	24	41.9
	Sg eNEZ		25	06.5
JAN 27				
GIG:	$\varphi = 50.061^\circ\text{N}$, $\lambda = 18.449^\circ\text{E}$			
	H = 04:12:30.1 , M = 2.3			
RAC	$\Delta = 18\text{km}$			
	Pg eZ	04	12	34.0
	Sg eNE		12	37.4
OJC	$\Delta = 98\text{km}$			
	Pg eZ	04	12	47.0
	Sg eN		12	59.6
NIE	$\Delta = 152\text{km}$			
	Pg eZ	04	12	56.6
	Sg eN		13	15.8
JAN 27				
GIG:	$\varphi = 50.057^\circ\text{N}$, $\lambda = 18.450^\circ\text{E}$			
	H = 06:28:10.4 , M = 2.3			
RAC	$\Delta = 18\text{km}$			
	Pg iZ	06	28	14.6 C
	Sg eNE		28	18.0
OJC	$\Delta = 98\text{km}$			
	Pg eZ	06	28	27.2
	Sg eN		28	39.4
NIE	$\Delta = 152\text{km}$			
	Pg eZ	06	28	37.0
	Sg eE		28	56.7
KSP	$\Delta = 176\text{km}$			
	Pg eNEZ	06	28	40.4
	Sn eNEZ		29	00.1

JAN 27

GIG: $\phi = 50.262^\circ\text{N}$, $\lambda = 18.853^\circ\text{E}$
 H = 06:31:53.2, **M = 2.9**

RAC $\Delta = 52\text{km}$
 Pg eZ 06 32 02.9
 Sg eNE 32 10.1

OJC $\Delta = 67\text{km}$
 Pg eZ 06 32 05.6
 Sg eE 32 14.3

NIE $\Delta = 141\text{km}$
 Pg eZ 06 32 17.7
 Sg eE 32 36.1

KSP $\Delta = 192\text{km}$
 Pn eNEZ 06 32 23.6
 Pg iNEZ 32 25.9
 Sg eNEZ 32 48.3

KWP $\Delta = 285\text{km}$
 Pn eZ 06 32 42.8
 Sg eNE 33 24.4

JAN 27

GIG: $\phi = 50.232^\circ\text{N}$, $\lambda = 19.035^\circ\text{E}$
H = 11:34:22.0, **M = 2.4**

OJC $\Delta = 55\text{km}$
 Pg eZ 11 34 31.8
 Sg eE 34 39.3

NIE $\Delta = 130\text{km}$
 Pg eZ 11 34 45.0
 Sg eN 35 01.6

KSP $\Delta = 205\text{km}$
 Pg eNEZ 11 34 56.2
 Sg eNEZ 35 20.8

JAN 27

GIG: $\phi = 50.162^\circ\text{N}$, $\lambda = 19.316^\circ\text{E}$
 H = 11:48:05.4, **M = 2.4**

OJC $\Delta = 36\text{km}$
 Pg eZ 11 48 12.1
 Sg eN 48 16.8

NIE $\Delta = 110\text{km}$
 Pg eZ 11 48 24.7
 (Sg) eEN 48 39.8

KSP $\Delta = 226\text{km}$
 Pg eNEZ 11 48 43.1
 Sn eNEZ 49 07.8

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JAN 28

$\varphi = 49.98^\circ\text{N}$, $\lambda = 18.68^\circ\text{E}$
H = 02:35:25.2, M = 2.3

OJC $\Delta = 84\text{km}$
 Pg eZ 02 35 39.1
 Sg eN 35 49.9

NIE $\Delta = 133\text{km}$
 Pg eZ 02 35 48.4
 (Sg) eN 36 06.3

KSP $\Delta = 195\text{km}$
 Pg eNEZ 02 35 58.8
 Sn eNEZ 36 20.5

JAN 28

GIG: $\varphi = 50.162^\circ\text{N}$, $\lambda = 19.316^\circ\text{E}$
H = 05:42:42.2, M = 2.5

OJC $\Delta = 34\text{km}$
 Pg eZ 05 42 47.9
 Sg iN 42 52.6

NIE $\Delta = 109\text{km}$
 Pg eZ 05 43 00.3
 Sg eE 43 15.6

KSP $\Delta = 228\text{km}$
 Pg eNEZ 05 43 21.0
 Sn eNEZ 43 45.7

JAN 28

$\varphi = 50.09^\circ\text{N}$, $\lambda = 18.46^\circ\text{E}$
H = 08:50:12.8, M = 2.2

RAC $\Delta = 19\text{km}$
 Pg eZ 08 50 17.0
 Sg eNE 50 20.4

OJC $\Delta = 97\text{km}$
 Pg eZ 08 50 29.6
 Sg eN 50 41.9

NIE $\Delta = 153\text{km}$
 Pg eZ 08 50 39.4
 Sg eEN 50 58.3

JAN 28

$\varphi = 50.09^\circ\text{N}$, $\lambda = 18.43^\circ\text{E}$
H = 16:52:00.6, M = 2.2

RAC $\Delta = 16\text{km}$
 Pg eZ 16 52 04.1
 Sg eNE 52 07.1

OJC $\Delta = 99\text{km}$
 Pg eZ 16 52 17.7
 Sg eN 52 30.4

NIE $\Delta = 155\text{km}$
 Pg eZ 16 52 27.1
 Sg eE 52 47.5

JAN 28

GIG: $\varphi = 50.064^\circ\text{N}$, $\lambda = 18.424^\circ\text{E}$
H = 19:14:25.0, M = 2.4

RAC $\Delta = 17\text{km}$
 Pg iZ 19 14 28.9 C
 Sg iNE 14 32.0

OJC $\Delta = 100\text{km}$
 Pg eZ 19 14 41.9
 Sg eN 14 54.9

NIE $\Delta = 154\text{km}$
 Pg eZ 19 14 51.9
 Sg eN 15 11.4

KSP $\Delta = 174\text{km}$
 Pg eZ 19 14 55.0
 Sg eNEZ 15 15.3

JAN 29

$\varphi = 50.26^\circ\text{N}$, $\lambda = 18.86^\circ\text{E}$
H = 13:54:41.1, M = 2.3

OJC $\Delta = 67\text{km}$
 Pg eZ 13 54 53.6
 Sg eE 55 01.6

NIE $\Delta = 140\text{km}$
 Pg eZ 13 55 05.9
 Sg eN 55 23.0

KSP $\Delta = 193\text{km}$
 Pn eNEZ 13 55 12.1
 Pg eNEZ 55 13.9
 Sg eNEZ 55 36.5

JAN 30

$\varphi = 50.10^\circ\text{N}$, $\lambda = 18.44^\circ\text{E}$
H = 01:13:04.4, M = 2.1

RAC $\Delta = 18\text{km}$
 Pg iZ 01 13 08.3 D
 Sg iNE 13 11.4

OJC $\Delta = 98\text{km}$
 Pg eZ 01 13 21.9
 Sg eN 13 34.3

KSP $\Delta = 173\text{km}$
 Pg eNEZ 01 13 33.4
 Sg eNEZ 13 54.8

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JAN 30

$\varphi = 50.04^{\circ}\text{N}$, $\lambda = 18.47^{\circ}\text{E}$
H = 03:02:21.1, M = 2.3

RAC $\Delta = 20\text{km}$
 Pg eZ 03 02 25.7
 Sg eNE 02 28.8

OJC $\Delta = 97\text{km}$
 Pg eZ 03 02 38.1
 Sg eN 02 49.8

NIE $\Delta = 150\text{km}$
 Pg iZ 03 02 48.1
 Sg iZ 03 06.5

KSP $\Delta = 178\text{km}$
 Pg eNEZ 03 02 52.2
 Sg eNEZ 03 12.9

JAN 30

$\varphi = 50.38^{\circ}\text{N}$, $\lambda = 18.90^{\circ}\text{E}$
H = 09:47:22.7, M = 2.1

OJC $\Delta = 66\text{km}$
 Pg eZ 09 47 34.6
 Sg eE 47 43.7

NIE $\Delta = 148\text{km}$
 Pg eZ 09 47 48.6
 Sg eEN 48 07.5

KSP $\Delta = 191\text{km}$
 Pg eNEZ 09 47 54.5
 Sg eNEZ 48 18.6

JAN 31

$\varphi = 50.27^{\circ}\text{N}$, $\lambda = 19.12^{\circ}\text{E}$
H = 01:51:44.8, M = 2.1

OJC $\Delta = 49\text{km}$
 Pg eZ 01 51 53.6
 Sg eE 52 00.1

NIE $\Delta = 128\text{km}$
 Pg eZ 01 52 06.9
 Sg eE 52 23.6

KSP $\Delta = 210\text{km}$
 Pg eNEZ 01 52 20.3
 Sg eNEZ 52 45.9

JAN 31

GIG: $\varphi = 50.273^{\circ}\text{N}$, $\lambda = 18.827^{\circ}\text{E}$
H = 08:14:42.4, M = 2.3

OJC $\Delta = 70\text{km}$
 Pg eZ 08 14 55.5
 Sg eE 15 03.6

NIE $\Delta = 143\text{km}$
 Pg eZ 08 15 07.3
 Sg eE 15 25.2

KSP $\Delta = 190\text{km}$
 Pg eNEZ 08 15 14.3
 Sg eNEZ 15 37.6

JAN 31

$\varphi = 50.26^{\circ}\text{N}$, $\lambda = 18.88^{\circ}\text{E}$
H = 16:09:45.4, M = 2.2

OJC $\Delta = 66\text{km}$
 Pg eZ 16 09 57.4
 Sg eE 10 06.0

NIE $\Delta = 140\text{km}$
 Pg eZ 16 10 09.8
 Sg eE 10 27.9

KSP $\Delta = 194\text{km}$
 Pg eNEZ 16 10 18.0
 Sg eNEZ 10 41.7

JAN 31

$\varphi = 50.28^{\circ}\text{N}$, $\lambda = 18.99^{\circ}\text{E}$
H = 17:38:26.0, M = 2.2

OJC $\Delta = 57\text{km}$
 Pg eZ 17 38 36.5
 Sg eNE 38 43.9

NIE $\Delta = 135\text{km}$
 Pg eZ 17 38 49.5
 Sg eN 39 07.1

KSP $\Delta = 201\text{km}$
 Pg eNEZ 17 39 00.2
 Sg eNEZ 39 24.3

JAN 31

GIG: $\varphi = 50.162^{\circ}\text{N}$, $\lambda = 19.316^{\circ}\text{E}$
H = 21:13:33.5, M = 2.4

OJC $\Delta = 34\text{km}$
 Pg eZ 21 13 39.3
 Sg eN 13 43.9

NIE $\Delta = 109\text{km}$
 Pg eZ 21 13 51.9
 Sg eE 14 07.0

KSP $\Delta = 228\text{km}$
 Pg eNEZ 21 14 12.1
 Sn eNEZ 14 36.8

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JAN 31

GIG: $\varphi = 50.261^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$
H = 22:53:32.8, M = 2.4

OJC $\Delta = 67\text{km}$
Pg eZ 22 53 45.1
Sg eN 53 53.6

NIE $\Delta = 140\text{km}$
Pg eZ 22 53 57.4
Sg eN 54 15.2

KSP $\Delta = 193\text{km}$
Pg eNEZ 22 54 05.6
Sn eEZ 54 26.2
Sg eNEZ 54 28.3

FEB 1

GIG: $\varphi = 50.233^\circ\text{N}$, $\lambda = 19.035^\circ\text{E}$
H = 00:10:11.5, M = 2.2

OJC $\Delta = 55\text{km}$
Pg eZ 00 10 21.4
Sg eN 10 28.9

NIE $\Delta = 129\text{km}$
Pg eZ 00 10 34.2
Sg eE 10 50.4

KSP $\Delta = 205\text{km}$
Pg eZ 00 10 45.8
Sg eE 11 10.8

FEB 1

GIG: $\varphi = 50.233^\circ\text{N}$, $\lambda = 19.038^\circ\text{E}$
H = 09:36:56.6, M = 2.2

OJC $\Delta = 54\text{km}$
Pg eZ 09 37 06.1
Sg eE 37 13.7

NIE $\Delta = 129\text{km}$
Pg eZ 09 37 19.2
Sg eN 37 35.9

KSP $\Delta = 206\text{km}$
Pg eE 09 37 30.9
Sn eE 37 54.3

FEB 1

GIG: $\varphi = 50.064^\circ\text{N}$, $\lambda = 18.423^\circ\text{E}$
H = 19:48:27.5, M = 2.2

RAC $\Delta = 16\text{km}$
Pg eZ 19 48 30.9
Sg eNE 48 34.1

OJC $\Delta = 100\text{km}$
Pg eZ 19 48 44.4
Sg eN 48 57.7

NIE $\Delta = 154\text{km}$
Pg eZ 19 48 54.3
Sg eN 49 14.4

FEB 1

GIG: $\varphi = 50.037^\circ\text{N}$, $\lambda = 18.432^\circ\text{E}$
H = 19:52:00.9, M = 2.4

RAC $\Delta = 18\text{km}$
Pg iZ 19 52 04.9 D
Sg eNE 52 08.3

OJC $\Delta = 100\text{km}$
Pg eZ 19 52 18.1
Sg eE 52 30.5

NIE $\Delta = 152\text{km}$
Pg eZ 19 52 27.3
Sg eE 52 46.6

KSP $\Delta = 176\text{km}$
Pn eE 19 52 29.2
Sg eZ 52 51.6

FEB 1

GIG: $\varphi = 50.066^\circ\text{N}$, $\lambda = 18.461^\circ\text{E}$
H = 19:54:39.9, M = 2.3

RAC $\Delta = 19\text{km}$
Pg iZ 19 54 44.5 D
Sg eNE 54 47.8

OJC $\Delta = 97\text{km}$
Pg eZ 19 54 56.6
Sg eN 55 08.6

NIE $\Delta = 152\text{km}$
Pg eZ 19 55 06.2
Sg eE 55 25.3

KSP $\Delta = 176\text{km}$
Pg eE 19 55 10.2
Sg eZ 55 30.8

FEB 2

GIG: $\varphi = 50.104^\circ\text{N}$, $\lambda = 19.178^\circ\text{E}$
H = 00:00:56.8, M = 2.6

OJC $\Delta = 47\text{km}$
Pg eZ 00 01 05.8
Sg eN 01 11.9

RAC $\Delta = 70\text{km}$
Pg eZ 00 01 09.7
Sg eN 01 18.2

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NIE	$\Delta = 112\text{km}$			
	Pg eZ	00	01	16.8
	Sg eN		01	31.3
KSP	$\Delta = 220\text{km}$			
	Pn eZ	00	01	32.1
	Pg eZ		01	33.9
	(Sg) eE		01	59.4
KWP	$\Delta = 258\text{km}$			
	Pg eZ	00	01	47.2
	Sg eNE		02	15.5
<u>FEB 2</u>				
GIG: $\varphi = 50.233^\circ\text{N}$, $\lambda = 19.037^\circ\text{E}$				
H = 05:08:10.9, M = 2.3				
OJC	$\Delta = 54\text{km}$			
	Pg eZ	05	08	20.7
	Sg eE		08	28.0
NIE	$\Delta = 129\text{km}$			
	Pg eZ	05	08	33.3
	Sg eN		08	49.9
KSP	$\Delta = 206\text{km}$			
	Pn eZ	05	08	44.0
	(Sg) eN		09	09.7
<u>FEB 2</u>				
$\varphi = 50.26^\circ\text{N}$, $\lambda = 18.86^\circ\text{E}$				
H = 14:31:57.1, M = 2.1				
OJC	$\Delta = 67\text{km}$			
	Pg eZ	14	32	10.0
	Sg eE		32	17.9
NIE	$\Delta = 140\text{km}$			
	Pg eZ	14	32	21.7
	Sg eN		32	39.6
KSP	$\Delta = 193\text{km}$			
	Pg eE	14	32	30.0
	Sg eN		32	52.7
<u>FEB 2</u>				
GIG: $\varphi = 50.164^\circ\text{N}$, $\lambda = 19.311^\circ\text{E}$				
H = 16:34:12.5, M = 2.5				
OJC	$\Delta = 35\text{km}$			
	Pg iZ	16	34	18.4 D
	Sg iN		34	23.1
NIE	$\Delta = 110\text{km}$			
	Pg eZ	16	34	31.5
	(Sg) eE		34	46.5

KSP	$\Delta = 227\text{km}$			
	Pn eE	16	34	49.4
	Pg eE		34	51.8
	Sn eN		35	16.5
<u>FEB 2</u>				
GIG: $\varphi = 50.234^\circ\text{N}$, $\lambda = 19.038^\circ\text{E}$				
H = 18:00:18.7, M = 2.3				
OJC	$\Delta = 54\text{km}$			
	Pg eZ	18	00	28.7
	Sg eN		00	35.8
NIE	$\Delta = 130\text{km}$			
	Pg eZ	18	00	42.0
	Sg eE		00	57.6
KSP	$\Delta = 205\text{km}$			
	Pg eZ	18	00	53.2
	(Sg) eN		01	17.2
<u>FEB 3</u>				
GIG: $\varphi = 50.058^\circ\text{N}$, $\lambda = 18.449^\circ\text{E}$				
H = 02:21:42.6, M = 2.0				
RAC	$\Delta = 19\text{km}$			
	Pg iZ	02	21	47.1 D
	Sg iNE		21	50.4
OJC	$\Delta = 98\text{km}$			
	Pg eZ	02	22	00.0
	Sg eN		22	11.8
NIE	$\Delta = 152\text{km}$			
	Pg eZ	02	22	08.0
	Sg eN		22	27.8
<u>FEB 3</u>				
GIG: $\varphi = 50.040^\circ\text{N}$, $\lambda = 18.475^\circ\text{E}$				
H = 02:53:32.7, M = 2.1				
RAC	$\Delta = 21\text{km}$			
	Pg iZ	02	53	37.4 D
	Sg eNE		53	40.8
OJC	$\Delta = 97\text{km}$			
	Pg eZ	02	53	49.9
	Sg eE		54	02.1
NIE	$\Delta = 149\text{km}$			
	Pg eZ	02	53	57.6
	Sg eE		54	17.5
KSP	$\Delta = 179\text{km}$			
	Pn eZ	02	54	01.2
	(Sn) eE		54	21.9
	Sg eE		54	24.2

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FEB 3

GIG: $\varphi = 50.237^\circ\text{N}$, $\lambda = 19.071^\circ\text{E}$
H = 03:51:24.8, M = 2.6

OJC $\Delta = 52\text{km}$
Pg iZ 03 51 34.4 D
Sg iE 51 41.3

RAC $\Delta = 65\text{km}$
Pg eZ 03 51 37.0
Sg eNE 51 45.8

NIE $\Delta = 127\text{km}$
Pg eZ 03 51 46.0
Sg eE 52 03.1

KSP $\Delta = 208\text{km}$
Pn eZ 03 51 57.6
Pg eE 51 59.9
(Sg) eN 52 24.1

KWP $\Delta = 269\text{km}$
P eZ 03 52 10.1
Sg eNE 52 44.4

FEB 3

GIG: $\varphi = 50.064^\circ\text{N}$, $\lambda = 18.424^\circ\text{E}$
H = 05:18:49.1, M = 2.1

RAC $\Delta = 17\text{km}$
Pg iZ 05 18 53.1 D
Sg iNE 18 56.2

OJC $\Delta = 99\text{km}$
Pg eZ 05 19 06.1
Sg eN 19 18.5

KSP $\Delta = 174\text{km}$
Pn eN 05 19 17.0
Sg eE 19 39.6

FEB 3

GIG: $\varphi = 50.234^\circ\text{N}$, $\lambda = 19.035^\circ\text{E}$
H = 08:33:56.2, M = 2.3

OJC $\Delta = 55\text{km}$
Pg eZ 08 34 06.6
Sg eN 34 13.8

NIE $\Delta = 129\text{km}$
Pg eZ 08 34 18.4
Sg eN 34 34.6

KSP $\Delta = 206\text{km}$
Pg eZ 08 34 31.1
Sg eN 34 55.2

FEB 3

GIG: $\varphi = 50.169^\circ\text{N}$, $\lambda = 19.302^\circ\text{E}$
H = 23:37:18.2, M = 2.3

OJC $\Delta = 36\text{km}$
Pg iZ 23 37 25.4 D
Sg eN 37 29.3

NIE $\Delta = 110\text{km}$
Pg eZ 23 37 36.5
Sg eN 37 50.9

KSP $\Delta = 226\text{km}$
Pg eE 23 37 56.3
Sn eE 38 20.3

FEB 3

GIG: $\varphi = 50.213^\circ\text{N}$, $\lambda = 19.062^\circ\text{E}$
H = 23:40:55.7, M = 2.3

OJC $\Delta = 53\text{km}$
Pg eZ 23 41 05.5
Sg eE 41 12.5

NIE $\Delta = 127\text{km}$
Pg eZ 23 41 18.0
Sg eE 41 33.3

KSP $\Delta = 208\text{km}$
Pg eE 23 41 30.6
Sn eN 41 54.0

FEB 4

GIG: $\varphi = 50.349^\circ\text{N}$, $\lambda = 18.975^\circ\text{E}$
H = 00:40:49.4, M = 2.3

OJC $\Delta = 60\text{km}$
Pg eZ 00 41 00.6
Sg eN 41 08.4

NIE $\Delta = 141\text{km}$
Pg eZ 00 41 12.9
Sg eE 41 32.1

KSP $\Delta = 197\text{km}$
Pn eE 00 41 21.1
Pg eE 41 22.9
Sg eE 41 46.5

FEB 4

GIG: $\varphi = 50.261^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$
H = 01:21:57.9, M = 2.5

RAC $\Delta = 51\text{km}$
Pg eZ 01 22 08.3
Sg eNE 22 15.5

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OJC	$\Delta = 67\text{km}$ Pg eZ Sg eE	01 22 10.4 22 18.9
NIE	$\Delta = 140\text{km}$ Pg eZ (Sg) eN	01 22 21.4 22 38.8
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	01 22 30.8 22 53.7
<u>FEB 4</u> GIG: $\varphi = 50.039^\circ\text{N}$, $\lambda = 18.463^\circ\text{E}$ H = 01:52:20.4, M = 2.3		
RAC	$\Delta = 20\text{km}$ Pg eZ Sg eNE	01 52 24.8 52 28.4
OJC	$\Delta = 98\text{km}$ Pg eZ Sg eE	01 52 37.4 52 49.7
NIE	$\Delta = 150\text{km}$ Pg eZ Sg eN	01 52 45.9 53 06.0
KSP	$\Delta = 178\text{km}$ Pn eN Sg eN	01 52 49.2 53 11.8
<u>FEB 4</u> GIG: $\varphi = 50.257^\circ\text{N}$, $\lambda = 18.887^\circ\text{E}$ H = 03:56:24.9, M = 2.5		
OJC	$\Delta = 65\text{km}$ Pg eZ Sg eN	03 56 37.0 56 45.3
NIE	$\Delta = 138\text{km}$ Pg eZ Sg eE	03 56 48.6 57 06.2
KSP	$\Delta = 195\text{km}$ Pn eZ Pg eZ Sn eZ Sg eZ	03 56 56.3 56 57.9 57 19.7 57 21.8
<u>FEB 4</u> GIG: $\varphi = 50.232^\circ\text{N}$, $\lambda = 19.038^\circ\text{E}$ H = 07:26:40.7, M = 2.3		
OJC	$\Delta = 55\text{km}$ Pg iZ Sg eE	07 26 51.2 C 26 58.2

NIE	$\Delta = 129\text{km}$ Pg eZ Sg eN	07 27 02.2 27 19.0
KSP	$\Delta = 206\text{km}$ (Pg) eZ Sn eN	07 27 14.6 27 38.4
<u>FEB 4</u> GIG: $\varphi = 50.261^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$ H = 14:10:21.6, M = 2.3		
OJC	$\Delta = 66\text{km}$ Pg eZ Sg eE	14 10 33.4 10 41.4
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eN	14 10 46.0 11 03.9
KSP	$\Delta = 194\text{km}$ Pg eZ Sg eN	14 10 55.0 11 17.5
<u>FEB 5</u> GIG: $\varphi = 50.169^\circ\text{N}$, $\lambda = 19.302^\circ\text{E}$ H = 05:07:51.4, M = 2.5		
OJC	$\Delta = 36\text{km}$ Pg eZ Sg eN	05 07 58.4 08 03.1
NIE	$\Delta = 111\text{km}$ Pg eZ Sg eE	05 08 09.7 08 24.9
KSP	$\Delta = 226\text{km}$ Pg eZ Sg eN	05 08 29.6 08 55.9
KWP	$\Delta = 251\text{km}$ Pg eZ Sg eNE	05 08 34.0 09 03.5
<u>FEB 7</u> $\varphi = 50.17^\circ\text{N}$, $\lambda = 18.88^\circ\text{E}$ H = 23:59:09.3, M = 2.2		
OJC	$\Delta = 66\text{km}$ Pg eZ Sg eE	23 59 21.5 59 30.0
NIE	$\Delta = 133\text{km}$ Pg eZ (Sg) eN	23 59 32.3 59 50.3
KSP	$\Delta = 198\text{km}$ Pg eE Sg eN	23 59 42.9 24 00 06.0

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FEB 8

$\varphi = 50.16^\circ\text{N}$, $\lambda = 19.32^\circ\text{E}$
H = 03:39:12.0, M = 2.5

OJC $\Delta = 35\text{km}$
 Pg iZ 03 39 18.3 D
 Sg eN 39 23.0

NIE $\Delta = 109\text{km}$
 (Pg) eZ 03 39 29.4
 Sg eN 39 44.6

KSP $\Delta = 228\text{km}$
 Pn eZ 03 39 49.2
 Pg eZ 39 51.6
 Sn eN 40 16.4

FEB 8

GIG: $\varphi = 50.066^\circ\text{N}$, $\lambda = 18.460^\circ\text{E}$
H = 09:15:10.0, M = 2.5

RAC $\Delta = 19\text{km}$
 Pg eZ 09 15 14.5
 Sg eNE 15 17.9

OJC $\Delta = 97\text{km}$
 Pg eZ 09 15 26.8
 Sg eE 15 39.1

NIE $\Delta = 151\text{km}$
 Pg eZ 09 15 35.3

KSP $\Delta = 177\text{km}$
 Pg eZ 09 15 40.5
 Sg eN 16 00.5

FEB 8

GIG: $\varphi = 50.232^\circ\text{N}$, $\lambda = 19.035^\circ\text{E}$
H = 11:08:42.7, M = 2.2

OJC $\Delta = 55\text{km}$
 Pg iZ 11 08 53.3 C
 Sg eE 08 59.7

NIE $\Delta = 129\text{km}$
 Pg eZ 11 09 04.8
 Sg eE 09 21.1

KSP $\Delta = 205\text{km}$
 Pg eE 11 09 17.4
 (Sg) eZ 09 41.1

FEB 9

GIG: $\varphi = 50.065^\circ\text{N}$, $\lambda = 18.461^\circ\text{E}$
H = 18:11:36.2, M = 2.3

RAC $\Delta = 19\text{km}$
 Pg eZ 18 11 40.8
 Sg eNE 11 44.2

OJC $\Delta = 97\text{km}$
 Pg eZ 18 11 53.4
 Sg eN 12 05.8

KSP $\Delta = 176\text{km}$
 Pg eE 18 12 05.7
 Sn eE 12 25.8

FEB 10

GIG: $\varphi = 50.061^\circ\text{N}$, $\lambda = 18.449^\circ\text{E}$
H = 05:25:28.1, M = 2.6

RAC $\Delta = 19\text{km}$
 Pg eZ 05 25 32.7
 Sg eNE 25 36.0

OJC $\Delta = 98\text{km}$
 Pg eZ 05 25 45.1
 Sg eN 25 57.6

NIE $\Delta = 152\text{km}$
 Pg eZ 05 25 53.9
 Sg eN 26 13.1

KSP $\Delta = 176\text{km}$
 Pn eZ 05 25 56.6
 Sn eE 26 18.2
 Sg eN 26 18.6

FEB 10

GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.424^\circ\text{E}$
H = 05:41:16.8, M = 2.2

RAC $\Delta = 17\text{km}$
 Pg eZ 05 41 20.9
 Sg eNE 41 24.0

OJC $\Delta = 99\text{km}$
 Pg eZ 05 41 34.1
 (Sg) eE 41 47.8

NIE $\Delta = 154\text{km}$
 Pg eZ 05 41 42.5
 (Sg) eN 42 02.1

FEB 10

GIG: $\varphi = 50.164^\circ\text{N}$, $\lambda = 19.313^\circ\text{E}$
H = 10:39:52.8, M = 2.5

OJC $\Delta = 35\text{km}$
 Pg iZ 10 39 59.9 D
 (Sg) eN 40 04.6

NIE $\Delta = 109\text{km}$
 Pg eZ 10 40 11.0
 Sg eE 40 25.7

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				<u>FEB 11</u>			
KSP	$\Delta = 227\text{km}$			GIG:	$\varphi = 50.261^\circ\text{N}, \lambda = 18.862^\circ\text{E}$		
	Pg eZ	10	40 31.4	$H = 09:59:46.1, M = 2.7$			
	Sn eN	40	55.6				
	Sg eN	40	57.9				
<u>FEB 10</u>							
GIG:				$\varphi = 50.234^\circ\text{N}, \lambda = 19.035^\circ\text{E}$			
$H = 20:44:45.6, M = 2.2$							
OJC	$\Delta = 55\text{km}$			OJC	$\Delta = 67\text{km}$		
	Pg eZ	20	44 56.2		Pg eZ	09	59 58.5
	Sg eE	45	03.2		Sg eE	10	00 07.0
NIE	$\Delta = 129\text{km}$			NIE	$\Delta = 140\text{km}$		
	Pg eZ	20	45 07.5		Pg eZ	10	00 10.3
	Sg eN	45	23.9		Sg eE	00	27.8
KSP	$\Delta = 205\text{km}$			KSP	$\Delta = 193\text{km}$		
	Pg eE	20	45 20.2		Pg eZ	10	00 19.1
	Sg eN	45	44.5		Sg eN	00	41.9
<u>FEB 10</u>				<u>FEB 11</u>			
$\varphi = 50.16^\circ\text{N}, \lambda = 18.81^\circ\text{E}$				$\varphi = 50.20^\circ\text{N}, \lambda = 19.10^\circ\text{E}$			
$H = 22:50:07.8, M = 2.1$				$H = 10:46:22.1, M = 2.2$			
OJC	$\Delta = 70\text{km}$			OJC	$\Delta = 56\text{km}$		
	Pg eZ	22	50 21.2		Pg eZ	10	46 32.4
	Sg eE	50	29.1		Sg eE	46	39.5
NIE	$\Delta = 136\text{km}$			NIE	$\Delta = 128\text{km}$		
	Pg eZ	22	50 31.6		Pg eZ	10	46 44.1
	Sg eE	50	49.2		(Sg) eE	47	01.8
KSP	$\Delta = 194\text{km}$			KSP	$\Delta = 205\text{km}$		
	Pg eE	22	50 40.8		Pg eZ	10	46 56.8
	Sg eN	51	03.7		Sg eN	47	21.8
<u>FEB 11</u>				<u>FEB 11</u>			
GIG:				$\varphi = 50.02^\circ\text{N}, \lambda = 18.45^\circ\text{E}$			
$H = 06:41:11.4, M = 2.3$				$H = 13:30:57.3, M = 2.3$			
OJC	$\Delta = 64\text{km}$			RAC	$\Delta = 20\text{km}$		
	Pg eZ	06	41 23.6		Pg eZ	13	31 01.5
	Sg eE	41	31.7		Sg eNE	31	04.9
NIE	$\Delta = 137\text{km}$			OJC	$\Delta = 99\text{km}$		
	Pg eZ	06	41 34.7		Pg eZ	13	31 14.1
	Sg eE	41	52.4		Sg eE	31	27.5
KSP	$\Delta = 196\text{km}$			NIE	$\Delta = 150\text{km}$		
	Pg eE	06	41 44.8		Pg eZ	13	31 22.5
	Sg eN	42	08.2		Sg eNE	31	42.5
				KSP	$\Delta = 179\text{km}$		
					Pg eN	13	31 28.4

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FEB 11

GIG: $\varphi = 50.164^{\circ}\text{N}$, $\lambda = 19.302^{\circ}\text{E}$
H = 17:42:48.1, M = 2.6

OJC $\Delta = 36\text{km}$
Pg eZ 17 42 55.3
Sg eN 43 00.0

NIE $\Delta = 110\text{km}$
Pg eZ 17 43 06.5
Sg eE 43 21.1

KSP $\Delta = 226\text{km}$
Pg eZ 17 43 26.6
Sg eN 43 52.9

FEB 12

GIG: $\varphi = 50.239^{\circ}\text{N}$, $\lambda = 18.921^{\circ}\text{E}$
H = 04:08:48.2, M = 2.1

OJC $\Delta = 63\text{km}$
Pg eZ 04 09 00.0
Sg eE 09 08.1

NIE $\Delta = 135\text{km}$
Pg eZ 04 09 11.2
Sg eE 09 28.6

KSP $\Delta = 198\text{km}$
Pg eZ 04 09 21.8
Sg eN 09 44.9

FEB 12

GIG: $\varphi = 50.066^{\circ}\text{N}$, $\lambda = 18.459^{\circ}\text{E}$
H = 04:46:01.5, M = 2.3

RAC $\Delta = 19\text{km}$
Pg eZ 04 46 06.2
Sg eNE 46 09.6

OJC $\Delta = 97\text{km}$
Pg eZ 04 46 18.8
Sg eN 46 30.4

NIE $\Delta = 151\text{km}$
Pg eZ 04 46 26.8

KSP $\Delta = 176\text{km}$
Pn eZ 04 46 30.2
Sg eN 46 52.5

FEB 12

$\varphi = 50.34^{\circ}\text{N}$, $\lambda = 18.93^{\circ}\text{E}$
H = 19:29:59.5, M = 2.3

OJC $\Delta = 64\text{km}$
Pg eZ 19 30 11.1
Sg eE 30 19.3

NIE $\Delta = 143\text{km}$
Pg eZ 19 30 24.0
Sg eN 30 42.8

KSP $\Delta = 194\text{km}$
Pg eZ 19 30 32.1
Sg eZ 30 56.0

FEB 14

GIG: $\varphi = 50.072^{\circ}\text{N}$, $\lambda = 19.127^{\circ}\text{E}$
H = 10:19:52.6, M = 2.2

OJC $\Delta = 51\text{km}$
Pg eZ 10 20 02.1
Sg eNE 20 08.8

NIE $\Delta = 113\text{km}$
Pg eZ 10 20 11.3

KSP $\Delta = 218\text{km}$
Pg eE 10 20 29.6
Sn eN 20 53.3

FEB 14

$\varphi = 50.10^{\circ}\text{N}$, $\lambda = 18.44^{\circ}\text{E}$
H = 23:13:19.2, M = 2.1

RAC $\Delta = 20\text{km}$
Pg iZ 23 13 23.8 D
Sg eNE 13 26.8

OJC $\Delta = 100\text{km}$
Pg eZ 23 13 36.4
Sg eN 13 49.3

NIE $\Delta = 150\text{km}$
Pg eZ 23 13 44.5
Sg eE 14 04.5

KSP $\Delta = 179\text{km}$
Pn eE 23 13 47.8
Sg eN 14 10.5

FEB 15

GIG: $\varphi = 50.234^{\circ}\text{N}$, $\lambda = 19.033^{\circ}\text{E}$
H = 01:00:47.4, M = 2.1

OJC $\Delta = 55\text{km}$
Pg eZ 01 00 58.1
(Sg) eNE 01 05.5

NIE $\Delta = 129\text{km}$
Pg eZ 01 01 09.6
Sg eN 01 26.2

KSP $\Delta = 205\text{km}$
Pg eE 01 01 22.4
Sg eN 01 46.2

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FEB 15

GIG: $\varphi = 50.162^{\circ}\text{N}$, $\lambda = 19.307^{\circ}\text{E}$
H = 01:06:15.1, M = 2.6

OJC $\Delta = 36\text{km}$
Pg iZ 01 06 22.1 D
Sg iN 06 26.8

RAC $\Delta = 80\text{km}$
Pg eZ 01 06 30.4
(Sg) eNE 06 41.2

NIE $\Delta = 110\text{km}$
Pg eZ 01 06 33.1
Sg eE 06 47.9

KSP $\Delta = 227\text{km}$
Pg eZ 01 06 53.1
Sg eN 07 20.1

KWP $\Delta = 250\text{km}$
Pg eZ 01 06 57.7
Sg eNE 07 28.2

GKP $\Delta = 373\text{km}$
Pg eZ 01 07 24.0

FEB 15

$\varphi = 50.18^{\circ}\text{N}$, $\lambda = 18.87^{\circ}\text{E}$
H = 03:21:02.2, M = 2.0

OJC $\Delta = 67\text{km}$
Pg eZ 03 21 15.1
Sg eE 21 22.6

NIE $\Delta = 134\text{km}$
Pg eZ 03 21 25.7
Sg eN 21 42.6

KSP $\Delta = 197\text{km}$
Pg eZ 03 21 35.7
Sg eN 21 59.0

FEB 15

GIG: $\varphi = 50.066^{\circ}\text{N}$, $\lambda = 18.461^{\circ}\text{E}$
H = 14:04:46.0, M = 2.5

RAC $\Delta = 19\text{km}$
Pg iZ 14 04 50.2 D
Sg iN 04 53.7

OJC $\Delta = 97\text{km}$
Pg eZ 14 05 02.5
Sg eE 05 15.1

NIE $\Delta = 151\text{km}$
(Pg) eZ 14 05 10.8
(Sg) eN 05 30.4

KSP $\Delta = 177\text{km}$
Pn eZ 14 05 14.0
Pg eZ 05 16.9
Sn eN 05 36.2

FEB 16

$\varphi = 50.01^{\circ}\text{N}$, $\lambda = 18.45^{\circ}\text{E}$
H = 03:57:40.9, M = 2.0

RAC $\Delta = 20\text{km}$
Pg eZ 03 57 45.5
Sg eNE 57 48.7

OJC $\Delta = 99\text{km}$
Pg eZ 03 57 58.1
Sg eN 58 10.9

NIE $\Delta = 150\text{km}$
Pg eZ 03 58 06.5
Sg eN 58 26.0

FEB 16

GIG: $\varphi = 50.259^{\circ}\text{N}$, $\lambda = 18.887^{\circ}\text{E}$
H = 11:53:13.6, M = 2.4

OJC $\Delta = 65\text{km}$
Pg iZ 11 53 25.5 D
Sg eE 53 33.7

NIE $\Delta = 138\text{km}$
Pg eZ 11 53 36.6
Sg eN 53 54.8

KSP $\Delta = 195\text{km}$
Pn eZ 11 53 45.2
Pg eZ 53 46.7
Sn eZ 54 08.4
Sg eZ 54 10.4

FEB 16

GIG: $\varphi = 50.164^{\circ}\text{N}$, $\lambda = 19.302^{\circ}\text{E}$
H = 23:31:37.1, M = 2.5

OJC $\Delta = 37\text{km}$
Pg eZ 23 31 44.5
Sg eN 31 49.2

NIE $\Delta = 110\text{km}$
Pg eZ 23 31 55.6
Sg eN 32 10.8

KSP $\Delta = 226\text{km}$
Pg eZ 23 32 15.2
Sg eN 32 41.8

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FEB 17

$\varphi = 50.16^\circ\text{N}$, $\lambda = 18.81^\circ\text{E}$
H = 00:32:22.4, M = 2.2

OJC $\Delta = 72\text{km}$
 Pg eZ 00 32 36.0
 Sg eN 32 44.4

NIE $\Delta = 136\text{km}$
 Pg eZ 00 32 46.0
 Sg eE 33 03.7

KSP $\Delta = 194\text{km}$
 Pg eE 00 32 55.2
 Sg eN 33 18.7

FEB 17

GIG: $\varphi = 50.245^\circ\text{N}$, $\lambda = 18.922^\circ\text{E}$
H = 01:10:37.4, M = 2.3

RAC $\Delta = 55\text{km}$
 Pg eZ 01 10 48.5
 Sg eNE 10 55.9

OJC $\Delta = 62\text{km}$
 Pg eZ 01 10 49.3
 Sg eE 10 57.5

NIE $\Delta = 135\text{km}$
 Pg eZ 01 10 59.9
 (Sg) eE 11 17.1

KSP $\Delta = 198\text{km}$
 Pg eZ 01 11 11.1
 Sg eN 11 34.2

FEB 17

GIG: $\varphi = 50.261^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$
H = 12:42:34.1, M = 2.2

OJC $\Delta = 67\text{km}$
 Pg eZ 12 42 46.9
 Sg eZ 42 54.8

NIE $\Delta = 140\text{km}$
 Pg eZ 12 42 58.5
 (Sg) eE 43 15.3

KSP $\Delta = 193\text{km}$
 Pg eE 12 43 06.7
 Sg eN 43 29.9

FEB 17

GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.459^\circ\text{E}$
H = 16:39:02.1, M = 2.2

RAC $\Delta = 19\text{km}$
 Pg eZ 16 39 06.7
 Sg eNE 39 09.4

OJC $\Delta = 97\text{km}$
 Pg eZ 16 39 19.0
 Sg eN 39 32.0

NIE $\Delta = 152\text{km}$
 Pg eZ 16 39 27.4
 Sg eE 39 47.1

KSP $\Delta = 176\text{km}$
 Pn eZ 16 39 30.5
 Sg eN 39 52.6

FEB 18

GIG: $\varphi = 50.234^\circ\text{N}$, $\lambda = 19.040^\circ\text{E}$
H = 00:45:45.0, M = 2.2

OJC $\Delta = 54\text{km}$
 Pg eZ 00 45 55.1
 Sg eN 46 02.3

NIE $\Delta = 128\text{km}$
 Pg eZ 00 46 06.6
 Sg eN 46 23.0

KSP $\Delta = 206\text{km}$
 Pg eE 00 46 19.6
 Sn eN 46 42.8

FEB 18

GIG: $\varphi = 50.103^\circ\text{N}$, $\lambda = 19.178^\circ\text{E}$
H = 12:52:16.9, M = 2.4

OJC $\Delta = 46\text{km}$
 Pg eZ 12 52 25.6
 Sg eN 52 31.8

NIE $\Delta = 111\text{km}$
 Pg eZ 12 52 35.3
 Sg eE 52 50.7

KSP $\Delta = 221\text{km}$
 Pn eE 12 52 52.9
 Sn eN 53 19.3

FEB 18

GIG: $\varphi = 50.072^\circ\text{N}$, $\lambda = 19.128^\circ\text{E}$
H = 15:22:04.4, M = 2.3

OJC $\Delta = 51\text{km}$
 Pg eZ 15 22 14.1
 Sg eN 22 20.8

NIE $\Delta = 112\text{km}$
 Pg eZ 15 22 23.2

KSP $\Delta = 218\text{km}$
 Pg eZ 15 22 41.6
 Sg eZ 23 06.6

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FEB 18

GIG: $\varphi = 50.056^\circ\text{N}$, $\lambda = 18.448^\circ\text{E}$
H = 19:18:01.5, M = 2.1

RAC $\Delta = 19\text{km}$
Pg eZ 19 18 05.5
Sg eNE 18 08.7

NIE $\Delta = 152\text{km}$
Pg eZ 19 18 26.7
Sg eN 18 46.5

KSP $\Delta = 176\text{km}$
Pg eZ 19 18 32.4
Sn eE 18 51.1

FEB 19

GIG: $\varphi = 50.040^\circ\text{N}$, $\lambda = 18.462^\circ\text{E}$
H = 05:57:47.3, M = 2.2

RAC $\Delta = 20\text{km}$
Pg iZ 05 57 52.4 D
Sg eNE 57 55.9

OJC $\Delta = 98\text{km}$
Pg eZ 05 58 04.7
Sg eN 58 17.2

NIE $\Delta = 150\text{km}$
Pg eZ 05 58 12.2
Sg eN 58 31.9

KSP $\Delta = 178\text{km}$
Pn eZ 05 58 16.2
Sg eN 58 38.7

FEB 19

GIG: $\varphi = 50.260^\circ\text{N}$, $\lambda = 18.863^\circ\text{E}$
H = 07:40:58.6, M = 2.5

OJC $\Delta = 67\text{km}$
Pg eZ 07 41 11.0
Sg eNE 41 19.7

NIE $\Delta = 140\text{km}$
Pg eZ 07 41 21.8
(Sg) eN 41 39.5

KSP $\Delta = 193\text{km}$
(Pn) eZ 07 41 30.8
Pg eZ 41 31.8
Sn eE 41 53.5
Sg eZ 41 54.6

KWP $\Delta = 284\text{km}$
Pg eZ 07 41 50.3

FEB 19

GIG: $\varphi = 50.164^\circ\text{N}$, $\lambda = 19.309^\circ\text{E}$
H = 08:39:57.0, M = 2.4

OJC $\Delta = 36\text{km}$
Pg eZ 08 40 04.2
Sg eN 40 08.9

NIE $\Delta = 110\text{km}$
Pg eZ 08 40 15.7
Sg eE 40 30.7

KSP $\Delta = 226\text{km}$
Pg eZ 08 40 34.6
Sg eN 41 01.7

FEB 19

GIG: $\varphi = 50.234^\circ\text{N}$, $\lambda = 19.040^\circ\text{E}$
H = 10:56:02.2, M = 2.1

OJC $\Delta = 55\text{km}$
Pg eZ 10 56 12.6
Sg eN 56 19.8

NIE $\Delta = 129\text{km}$
(Pg) eZ 10 56 23.2
Sg eN 56 40.5

KSP $\Delta = 205\text{km}$
Pg eZ 10 56 36.8
Sg eZ 57 01.2

FEB 21

GIG: $\varphi = 50.234^\circ\text{N}$, $\lambda = 19.038^\circ\text{E}$
H = 18:40:52.4, M = 2.1

OJC $\Delta = 55\text{km}$
Pg eZ 18 41 03.1
Sg eN 41 10.1

NIE $\Delta = 129\text{km}$
Pg eZ 18 41 14.5
Sg eE 41 31.5

KSP $\Delta = 205\text{km}$
Pn eZ 18 41 24.1
Pg eZ 41 27.0
Sg eN 41 51.1

FEB 21

$\varphi = 50.16^\circ\text{N}$, $\lambda = 18.81^\circ\text{E}$
H = 21:45:23.0, M = 1.9

OJC $\Delta = 71\text{km}$
Pg eZ 21 45 36.5
Sg eE 45 44.5

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NIE	$\Delta = 136\text{km}$					KSP	$\Delta = 176\text{km}$				
	Pg eZ	21	45	46.6			Pg eZ	13	13	50.9	
	Sg eN		46	04.5			Sg eN		14	11.6	
KSP	$\Delta = 194\text{km}$					FEB 22					
	Pg eZ	21	45	55.9		GIG:	$\varphi = 50.164^\circ\text{N}, \lambda = 19.300^\circ\text{E}$				
	Sg eN		46	19.3			H = 13:26:38.4, M = 2.5				
FEB 22						OJC	$\Delta = 37\text{km}$				
GIG:	$\varphi = 50.064^\circ\text{N}, \lambda = 18.423^\circ\text{E}$						Pg eZ	13	26	45.0	
	H = 07:15:24.2, M = 2.3						Sg iN		26	49.7	
RAC	$\Delta = 17\text{km}$					NIE	$\Delta = 111\text{km}$				
	Pg eZ	07	15	28.3			Pg eZ	13	26	57.6	
	Sg eNE		15	31.4			Sg eE		27	12.5	
OJC	$\Delta = 100\text{km}$					KSP	$\Delta = 225\text{km}$				
	Pg eZ	07	15	41.5			Pg eZ	13	27	16.1	
	Sg eNE		15	54.1			Sg eN		27	43.0	
NIE	$\Delta = 154\text{km}$					FEB 22					
	Pg iZ	07	15	49.8 D		GIG:	$\varphi = 50.247^\circ\text{N}, \lambda = 18.875^\circ\text{E}$				
	Sg eN		16	10.2			H = 14:03:09.4, M = 2.3				
KSP	$\Delta = 174\text{km}$					OJC	$\Delta = 66\text{km}$				
	Pn eZ	07	15	52.5			Pg eZ	14	03	22.1	
	Sg eZ		16	14.7			Sg eE		03	30.1	
FEB 22						NIE	$\Delta = 138\text{km}$				
GIG:	$\varphi = 50.066^\circ\text{N}, \lambda = 18.464^\circ\text{E}$						Pg eZ	14	03	33.0	
	H = 13:03:02.7, M = 2.1						(Sg) eE		03	50.3	
RAC	$\Delta = 19\text{km}$					KSP	$\Delta = 194\text{km}$				
	Pg eZ	13	03	07.4			Pg eZ	14	03	42.4	
	Sg eNE		03	10.6			Sg eN		04	05.0	
OJC	$\Delta = 97\text{km}$					FEB 22					
	Pg eZ	13	03	19.9			$\varphi = 50.18^\circ\text{N}, \lambda = 18.99^\circ\text{E}$				
	Sg eE		03	31.9			H = 23:12:14.0, M = 2.0				
KSP	$\Delta = 176\text{km}$					OJC	$\Delta = 58\text{km}$				
	Pg eZ	13	03	32.1			Pg eZ	23	12	24.7	
	Sg eN		03	53.4			Sg eN		12	31.9	
FEB 22						NIE	$\Delta = 127\text{km}$				
GIG:	$\varphi = 50.067^\circ\text{N}, \lambda = 18.459^\circ\text{E}$						Pg eZ	23	12	36.3	
	H = 13:13:20.0, M = 2.4						Sg eN		12	52.6	
RAC	$\Delta = 19\text{km}$					KSP	$\Delta = 205\text{km}$				
	Pg eZ	13	13	24.5			Pg eE	23	12	48.9	
	Sg eNE		13	27.7			Sg eN		13	13.2	
OJC	$\Delta = 97\text{km}$					FEB 22					
	Pg eZ	13	13	36.8		GIG:	$\varphi = 50.271^\circ\text{N}, \lambda = 18.915^\circ\text{E}$				
	Sg eN		13	49.9			H = 23:54:19.4, M = 2.3				
NIE	$\Delta = 151\text{km}$					OJC	$\Delta = 63\text{km}$				
	Pg eZ	13	13	45.2			Pg eZ	23	54	31.2	
	Sg eN		14	05.0			Sg eN		54	39.3	

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NIE	$\Delta = 138\text{km}$ Pg eZ (Sg) eE	23 54 42.6 54 59.7
KSP	$\Delta = 196\text{km}$ Pg eZ Sg eN	23 54 52.7 55 16.1
<u>FEB 23</u>		
GIG: $\varphi = 50.354^\circ\text{N}$, $\lambda = 18.871^\circ\text{E}$ $H = 14:41:40.1$, $M = 2.9$		
RAC	$\Delta = 56\text{km}$ Pg eZ Sg eNE	14 41 51.9 41 59.2
OJC	$\Delta = 68\text{km}$ Pg eZ Sg eN	14 41 52.8 42 01.5
NIE	$\Delta = 146\text{km}$ Pg eZ (Sg) eN	14 42 04.7 42 22.9
KSP	$\Delta = 190\text{km}$ Pg eZ Sn eE Sg eN	14 42 11.8 42 33.1 42 35.5
KWP	$\Delta = 286\text{km}$ Pn eZ Pg eZ Sg eNE	14 42 25.6 42 33.9 43 04.2
<u>FEB 23</u>		
GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.887^\circ\text{E}$ $H = 17:14:25.2$, $M = 2.3$		
OJC	$\Delta = 65\text{km}$ Pg eZ Sg eN	17 14 37.6 14 46.0
NIE	$\Delta = 138\text{km}$ Pg eZ Sg eE	17 14 48.3 15 06.7
KSP	$\Delta = 195\text{km}$ Pg eZ Sg eN	17 14 58.7 15 21.7
<u>FEB 23</u>		
$\varphi = 50.20^\circ\text{N}$, $\lambda = 18.89^\circ\text{E}$ $H = 23:10:36.2$, $M = 2.2$		
OJC	$\Delta = 65\text{km}$ Pg eZ Sg iE	23 10 48.4 10 56.1

NIE	$\Delta = 134\text{km}$ Pg eZ Sg eN	23 10 58.9 11 16.8
KSP	$\Delta = 197\text{km}$ Pg eE Sg eN	23 11 09.7 11 33.0
<u>FEB 24</u>		
GIG: $\varphi = 50.164^\circ\text{N}$, $\lambda = 19.309^\circ\text{E}$ $H = 04:45:30.9$, $M = 2.5$		
OJC	$\Delta = 36\text{km}$ Pg eZ Sg eN	04 45 38.1 45 42.7
NIE	$\Delta = 110\text{km}$ Pg eZ Sg eE	04 45 49.2 46 04.3
KSP	$\Delta = 226\text{km}$ Pg eZ Sg eN	04 46 08.8 46 35.3
<u>FEB 24</u>		
GIG: $\varphi = 50.252^\circ\text{N}$, $\lambda = 18.909^\circ\text{E}$ $H = 21:36:46.6$, $M = 2.4$		
OJC	$\Delta = 64\text{km}$ Pg eZ Sg eE	21 36 58.9 37 07.1
NIE	$\Delta = 137\text{km}$ Pg eZ (Sg) eN	21 37 09.4 37 26.8
KSP	$\Delta = 197\text{km}$ Pg eZ Sg eN	21 37 20.3 37 43.1
<u>FEB 24</u>		
GIG: $\varphi = 50.255^\circ\text{N}$, $\lambda = 18.907^\circ\text{E}$ $H = 23:29:02.9$, $M = 2.4$		
RAC	$\Delta = 54\text{km}$ Pg eZ Sg eNE	23 29 13.7 29 21.5
OJC	$\Delta = 64\text{km}$ Pg eZ Sg eE	23 29 14.8 29 23.2
NIE	$\Delta = 137\text{km}$ (Pg) eZ Sg eN	23 29 25.4 29 43.5

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KSP	$\Delta = 197\text{km}$			
Pn eZ		23	29	33.8
Pg eZ			29	36.4
Sn eE			29	57.3
Sg eN			30	00.1
FEB 24				
GIG:	$\varphi = 50.061^\circ\text{N}, \lambda = 18.449^\circ\text{E}$			
	$H = 23:43:39.7, M = 2.2$			
RAC	$\Delta = 18\text{km}$			
Pg eZ		23	43	44.0
Sg eNE			43	47.2
OJC	$\Delta = 98\text{km}$			
Pg eZ		23	43	57.1
Sg eN			44	09.8
NIE	$\Delta = 152\text{km}$			
Pg eZ		23	44	05.0
Sg eN			44	24.9
FEB 25				
GIG:	$\varphi = 50.252^\circ\text{N}, \lambda = 18.882^\circ\text{E}$			
	$H = 00:19:15.7, M = 2.3$			
RAC	$\Delta = 52\text{km}$			
Pg eZ		00	19	26.6
Sg eNE			19	33.7
OJC	$\Delta = 65\text{km}$			
Pg eZ		00	19	27.9
Sg eE			19	36.4
NIE	$\Delta = 138\text{km}$			
Pg eZ		00	19	38.7
Sg eE			19	56.6
KSP	$\Delta = 195\text{km}$			
Pn eZ		00	19	46.1
Pg eZ			19	49.0
Sg eZ			20	11.9
FEB 25				
GIG:	$\varphi = 50.261^\circ\text{N}, \lambda = 18.860^\circ\text{E}$			
	$H = 01:09:46.4, M = 2.2$			
OJC	$\Delta = 67\text{km}$			
Pg eZ		01	09	59.0
Sg eE			10	07.7
NIE	$\Delta = 140\text{km}$			
Pg eZ		01	10	09.7
Sg eE			10	28.2
KSP	$\Delta = 193\text{km}$			
Pg eZ		01	10	19.3
(Sg) eN			10	43.2

FEB 25				
	$\varphi = 50.17^\circ\text{N}, \lambda = 18.90^\circ\text{E}$			
	$H = 01:27:15.6, M = 2.0$			
OJC	$\Delta = 65\text{km}$			
Pg eZ		01	27	28.1
Sg eE			27	35.6
NIE	$\Delta = 132\text{km}$			
Pg eZ		01	27	38.5
Sg eE			27	56.0
KSP	$\Delta = 199\text{km}$			
Pg eE		01	27	49.4
Sg eN			28	12.9
FEB 25				
	$\varphi = 50.18^\circ\text{N}, \lambda = 18.90^\circ\text{E}$			
	$H = 02:13:17.3, M = 2.4$			
RAC	$\Delta = 52\text{km}$			
Pg eZ		02	13	27.6
Sg eNE			13	35.0
OJC	$\Delta = 64\text{km}$			
Pg eZ		02	13	29.1
Sg eN			13	37.2
NIE	$\Delta = 133\text{km}$			
Pg eZ		02	13	40.2
Sg eE			13	57.6
KSP	$\Delta = 199\text{km}$			
Pn eZ		02	13	48.4
Pg eZ			13	50.3
Sn eN			14	12.8
KWP	$\Delta = 279\text{km}$			
Pn eZ		02	14	05.8
Sn eNE			14	39.4
FEB 25				
GIG:	$\varphi = 50.164^\circ\text{N}, \lambda = 19.309^\circ\text{E}$			
	$H = 16:20:12.5, M = 2.5$			
OJC	$\Delta = 36\text{km}$			
Pg eZ		16	20	19.7
Sg eN			20	24.4
NIE	$\Delta = 110\text{km}$			
Pg eZ		16	20	30.7
Sg eE			20	45.8
KSP	$\Delta = 226\text{km}$			
Pg eZ		16	20	50.5
Sg eN			21	17.1

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FEB 25

GIG: $\varphi = 50.063^\circ\text{N}$, $\lambda = 18.426^\circ\text{E}$
H = 20:21:03.3, M = 2.1

RAC $\Delta = 17\text{km}$
 Pg eZ 20 21 07.6
 Sg eNE 21 10.6

OJC $\Delta = 99\text{km}$
 Pg eZ 20 21 20.8
 Sg eN 21 33.5

NIE $\Delta = 153\text{km}$
 Pg eZ 20 21 29.0
 Sg eN 21 49.3

FEB 26

GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$
H = 13:06:08.1, M = 2.6

RAC $\Delta = 52\text{km}$
 Pg eZ 13 06 17.9
 Sg eNE 06 24.4

OJC $\Delta = 66\text{km}$
 Pg eZ 13 06 20.6
 Sg eN 06 28.8

NIE $\Delta = 139\text{km}$
 Pg eZ 13 06 31.6
 Sg eE 06 49.6

KSP $\Delta = 194\text{km}$
 Pg eZ 13 06 41.2
 Sg eN 07 03.9

FEB 28

GIG: $\varphi = 50.066^\circ\text{N}$, $\lambda = 18.428^\circ\text{E}$
H = 08:25:23.5, M = 2.8

RAC $\Delta = 17\text{km}$
 Pg iZ 08 25 27.7 D
 Sg eNE 25 30.8

OJC $\Delta = 99\text{km}$
 Pg eZ 08 25 40.6
 Sg eN 25 53.3

NIE $\Delta = 153\text{km}$
 Pg eZ 08 25 49.0
 Sg eN 26 09.0

KSP $\Delta = 175\text{km}$
 Pn eZ 08 25 51.7
 Sn eE 26 12.7
 Sg eE 26 14.2

MAR 1

GIG: $\varphi = 50.163^\circ\text{N}$, $\lambda = 19.304^\circ\text{E}$
H = 03:12:56.9, M = 2.3

OJC $\Delta = 36\text{km}$
 Pg iZ 03 13 04.1 D
 Sg iN 13 08.7

NIE $\Delta = 110\text{km}$
 Pg eZ 03 13 15.1
 Sg eE 13 29.8

KSP $\Delta = 226\text{km}$
 Pg eZ 03 13 35.1
 Sg eN 14 02.1

MAR 1

GIG: $\varphi = 50.28^\circ\text{N}$, $\lambda = 18.71^\circ\text{E}$
H = 08:49:23.6, M = 2.0

OJC $\Delta = 78\text{km}$
 Pg eZ 08 49 37.4
 (Sg) eE 49 49.0

NIE $\Delta = 150\text{km}$
 Pg eZ 08 49 48.2
 Sg eE 50 07.5

KSP $\Delta = 182\text{km}$
 Pg eZ 08 49 54.4
 Sg eN 50 16.4

MAR 1

GIG: $\varphi = 50.238^\circ\text{N}$, $\lambda = 18.922^\circ\text{E}$
H = 14:09:41.7, M = 2.1

OJC $\Delta = 63\text{km}$
 Pg eZ 14 09 53.4
 Sg eE 10 00.8

NIE $\Delta = 136\text{km}$
 Pg eZ 14 10 04.4
 Sg eE 10 21.2

KSP $\Delta = 197\text{km}$
 Pg eZ 14 10 14.9

MAR 1

GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.468^\circ\text{E}$
H = 15:07:17.9, M = 2.2

RAC $\Delta = 20\text{km}$
 Pg eZ 15 07 22.4
 Sg eNE 07 25.7

OJC $\Delta = 96\text{km}$
 Pg eZ 15 07 34.6
 Sg eN 07 47.4

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NIE	$\Delta = 151\text{km}$ Pg eZ Sg eE	15 07 42.5 08 01.5
KSP	$\Delta = 177\text{km}$ Pg eZ Sg eE	15 07 47.0 08 08.4
MAR 1		
	$\varphi = 50.17^\circ\text{N}, \lambda = 19.14^\circ\text{E}$ $H = 16:10:29.5, M = 2.2$	
OJC	$\Delta = 48\text{km}$ Pg eZ Sg eN	16 10 38.2 10 44.3
NIE	$\Delta = 119\text{km}$ Pg eZ Sg eE	16 10 49.2 11 05.1
KSP	$\Delta = 215\text{km}$ Pg eE Sg eN	16 11 04.7 11 30.2
MAR 1		
	GIG: $\varphi = 50.072^\circ\text{N}, \lambda = 19.127^\circ\text{E}$ $H = 21:42:33.9, M = 2.2$	
OJC	$\Delta = 51\text{km}$ Pg eZ Sg eN	21 42 43.8 42 50.4
NIE	$\Delta = 112\text{km}$ Pg eZ (Sg) eE	21 42 52.7 43 08.7
KSP	$\Delta = 218\text{km}$ Pg eE Sg eE	21 43 11.3 43 36.5
MAR 2		
	$\varphi = 50.19^\circ\text{N}, \lambda = 18.85^\circ\text{E}$ $H = 00:33:34.6, M = 2.0$	
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eE	00 33 47.0 33 55.4
NIE	$\Delta = 136\text{km}$ Pg eZ Sg eN	00 33 57.6 34 15.8
KSP	$\Delta = 195\text{km}$ Pg eZ Sg eN	00 34 07.8 34 31.0
MAR 2		
	GIG: $\varphi = 50.068^\circ\text{N}, \lambda = 18.461^\circ\text{E}$ $H = 03:15:17.2, M = 2.1$	
RAC	$\Delta = 19\text{km}$ Pg iZ Sg eNE	03 15 21.8 D 15 24.7
OJC	$\Delta = 97\text{km}$ Pg eZ Sg eN	03 15 33.8 15 46.4
NIE	$\Delta = 152\text{km}$ Pg eZ (Sg) eN	03 15 42.5 15 59.8
KSP	$\Delta = 176\text{km}$ Pg eZ Sg eN	03 15 46.3 16 07.8
MAR 2		
	GIG: $\varphi = 50.261^\circ\text{N}, \lambda = 18.889^\circ\text{E}$ $H = 13:04:08.7, M = 2.3$	
OJC	$\Delta = 65\text{km}$ Pg eZ Sg eE	13 04 21.1 04 29.5
NIE	$\Delta = 138\text{km}$ Pg eZ Sg eE	13 04 31.8 04 50.1
KSP	$\Delta = 195\text{km}$ Pg eZ Sg eN	13 04 42.0 05 05.1
MAR 2		
	GIG: $\varphi = 50.223^\circ\text{N}, \lambda = 18.829^\circ\text{E}$ $H = 16:47:59.4, M = 2.5$	
OJC	$\Delta = 70\text{km}$ Pg eZ Sg eN	16 48 12.0 48 21.2
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eN	16 48 22.1 48 40.5
KSP	$\Delta = 192\text{km}$ Pg eZ Sg eZ	16 48 32.1 48 54.4
MAR 2		
	GIG: $\varphi = 50.170^\circ\text{N}, \lambda = 19.297^\circ\text{E}$ $H = 22:09:37.8, M = 2.4$	
OJC	$\Delta = 36\text{km}$ Pg eZ Sg eN	22 09 44.6 09 49.2

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NIE	$\Delta = 111\text{km}$		
Pg	eZ	22 09 55.6	
Sg	eE	10 10.9	
KSP	$\Delta = 226\text{km}$		
Pg	eZ	22 10 15.7	
Sg	eN	10 42.6	
MAR 3			
	$\varphi = 50.20^\circ\text{N}, \lambda = 18.84^\circ\text{E}$		
	$H = 01:05:37.7, M = 2.0$		
OJC	$\Delta = 69\text{km}$		
Pg	eZ	01 05 50.6	
Sg	eN	05 59.0	
NIE	$\Delta = 137\text{km}$		
Pg	eZ	01 06 01.4	
Sg	eN	06 19.7	
KSP	$\Delta = 194\text{km}$		
Pg	eE	01 06 11.0	
Sg	eN	06 33.4	
MAR 3			
GIG:	$\varphi = 50.236^\circ\text{N}, \lambda = 19.038^\circ\text{E}$		
	$H = 17:23:33.6, M = 2.3$		
OJC	$\Delta = 54\text{km}$		
Pg	eZ	17 23 43.8	
Sg	eN	23 51.1	
NIE	$\Delta = 129\text{km}$		
Pg	eZ	17 23 55.2	
Sg	eN	24 11.6	
KSP	$\Delta = 206\text{km}$		
Pg	eE	17 24 08.2	
Sg	eN	24 32.5	
MAR 4			
GIG:	$\varphi = 50.066^\circ\text{N}, \lambda = 18.465^\circ\text{E}$		
	$H = 01:07:37.5, M = 2.4$		
RAC	$\Delta = 19\text{km}$		
Pg	eZ	01 07 42.0	
Sg	eNE	07 45.0	
OJC	$\Delta = 97\text{km}$		
Pg	eZ	01 07 54.7	
Sg	eE	08 06.1	
NIE	$\Delta = 151\text{km}$		
Pg	eZ	01 08 02.2	
Sg	eE	08 21.3	

KSP	$\Delta = 177\text{km}$		
Pg	eE	01 08 06.9	
Sg	eN	08 28.1	
MAR 4			
	$\varphi = 50.20^\circ\text{N}, \lambda = 18.72^\circ\text{E}$		
	$H = 04:33:32.7, M = 2.1$		
OJC	$\Delta = 77\text{km}$		
Pg	eZ	04 33 46.7	
Sg	eN	33 55.3	
NIE	$\Delta = 143\text{km}$		
Pg	eZ	04 33 56.8	
Sg	eE	34 14.9	
KSP	$\Delta = 186\text{km}$		
Pg	eE	04 34 03.6	
Sg	eN	34 26.4	
MAR 4			
GIG:	$\varphi = 50.064^\circ\text{N}, \lambda = 18.422^\circ\text{E}$		
	$H = 05:00:27.1, M = 2.6$		
RAC	$\Delta = 17\text{km}$		
Pg	iZ	05 00 31.0 C	
Sg	eNE	00 33.6	
OJC	$\Delta = 100\text{km}$		
Pg	eZ	05 00 44.0	
Sg	eN	00 57.0	
NIE	$\Delta = 154\text{km}$		
Pg	eZ	05 00 52.4	
Sg	eN	01 12.5	
KSP	$\Delta = 174\text{km}$		
Pn	eZ	05 00 55.2	
Pg	eZ	00 56.7	
Sn	eN	01 16.0	
Sg	eN	01 17.4	
MAR 4			
GIG:	$\varphi = 50.068^\circ\text{N}, \lambda = 18.460^\circ\text{E}$		
	$H = 13:17:42.4, M = 2.5$		
RAC	$\Delta = 19\text{km}$		
Pg	iZ	13 17 46.8 D	
Sg	eNE	17 49.8	
OJC	$\Delta = 97\text{km}$		
Pg	eZ	13 17 59.1	
(Sg)	eN	18 12.7	
NIE	$\Delta = 152\text{km}$		
Pg	eZ	13 18 07.3	
Sg	eN	18 26.2	

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KSP	$\Delta = 176\text{km}$			
	Pg eZ	13	18	10.9
	Sg eN		18	32.8
MAR 4				
GIG:	$\varphi = 50.250^\circ\text{N}, \lambda = 18.709^\circ\text{E}$			
	$H = 16:25:53.2, M = 2.2$			
OJC	$\Delta = 78\text{km}$			
	Pg eZ	16	26	07.3
	Sg eE		26	17.8
NIE	$\Delta = 148\text{km}$			
	Pg eZ	16	26	18.0
	Sg eE		26	35.5
KSP	$\Delta = 183\text{km}$			
	Pg eZ	16	26	24.4
	Sg eN		26	45.8
MAR 4				
	$\varphi = 50.20^\circ\text{N}, \lambda = 19.27^\circ\text{E}$			
	$H = 19:57:15.4, M = 2.4$			
OJC	$\Delta = 38\text{km}$			
	Pg eZ	19	57	22.3
	Sg eN		57	27.0
NIE	$\Delta = 115\text{km}$			
	Pg eZ	19	57	34.8
	Sg eE		57	50.1
KSP	$\Delta = 222\text{km}$			
	Pg eZ	19	57	53.2
	Sg eN		58	19.8
MAR 4				
GIG:	$\varphi = 50.239^\circ\text{N}, \lambda = 18.922^\circ\text{E}$			
	$H = 20:26:34.4, M = 2.1$			
OJC	$\Delta = 62\text{km}$			
	Pg eZ	20	26	45.6
	Sg eE		26	53.8
NIE	$\Delta = 135\text{km}$			
	Pg eZ	20	26	56.9
	Sg eE		27	14.1
KSP	$\Delta = 198\text{km}$			
	Pg eZ	20	27	07.5
	Sg eN		27	30.6
MAR 4				
GIG:	$\varphi = 50.234^\circ\text{N}, \lambda = 19.040^\circ\text{E}$			
	$H = 20:47:15.3, M = 2.0$			
OJC	$\Delta = 54\text{km}$			
	Pg eZ	20	47	25.1
	Sg eN		47	32.3

NIE	$\Delta = 128\text{km}$			
	Pg eZ	20	47	36.2
	Sg eN		47	52.8
KSP	$\Delta = 206\text{km}$			
	Pg eZ	20	47	50.1
	Sg eZ		48	13.6
MAR 5				
GIG:	$\varphi = 50.071^\circ\text{N}, \lambda = 19.125^\circ\text{E}$			
	$H = 03:30:10.3, M = 2.2$			
OJC	$\Delta = 51\text{km}$			
	Pg eZ	03	30	19.5
	Sg iN		30	26.2
NIE	$\Delta = 112\text{km}$			
	Pg eZ	03	30	28.3
	Sg eN		30	44.5
KSP	$\Delta = 219\text{km}$			
	Pg eZ	03	30	46.4
	Sg eN		31	13.8
MAR 5				
GIG:	$\varphi = 50.061^\circ\text{N}, \lambda = 18.447^\circ\text{E}$			
	$H = 06:56:06.0, M = 2.2$			
RAC	$\Delta = 19\text{km}$			
	Pg eZ	06	56	10.0
	Sg eNE		56	13.2
OJC	$\Delta = 98\text{km}$			
	Pg eZ	06	56	22.6
	Sg eE		56	34.9
NIE	$\Delta = 152\text{km}$			
	Pg eZ	06	56	30.6
	Sg eN		56	50.1
KSP	$\Delta = 176\text{km}$			
	Pg eE	06	56	35.9
	Sg eN		56	56.7
MAR 7				
GIG:	$\varphi = 50.257^\circ\text{N}, \lambda = 18.884^\circ\text{E}$			
	$H = 17:04:36.0, M = 2.3$			
OJC	$\Delta = 65\text{km}$			
	Pg eZ	17	04	47.9
	Sg eE		04	56.5
NIE	$\Delta = 138\text{km}$			
	Pg eZ	17	04	58.8
	Sg eE		05	16.8

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KSP	$\Delta = 195\text{km}$ Pg eZ Sn eZ Sg eZ	17 05 09.1 05 30.8 05 32.7
MAR 7		
GIG:	$\varphi = 50.171^\circ\text{N}$, $\lambda = 19.298^\circ\text{E}$ $H = 21:43:07.4$, $M = 2.4$	
OJC	$\Delta = 36\text{km}$ Pg eZ Sg eN	21 43 14.1 43 18.7
NIE	$\Delta = 110\text{km}$ Pg eZ Sg eE	21 43 25.0 43 40.2
KSP	$\Delta = 226\text{km}$ Pg eZ Sn eN	21 43 44.7 44 11.5
MAR 8		
GIG:	$\varphi = 50.069^\circ\text{N}$, $\lambda = 18.466^\circ\text{E}$ $H = 15:42:44.4$, $M = 2.2$	
RAC	$\Delta = 20\text{km}$ Pg eZ Sg eNE	15 42 48.7 42 52.1
OJC	$\Delta = 97\text{km}$ Pg eZ Sg eE	15 43 00.9 43 13.8
NIE	$\Delta = 151\text{km}$ Pg eZ Sg eN	15 43 09.0 43 27.9
KSP	$\Delta = 177\text{km}$ Sg eN	15 43 33.6
MAR 8		
GIG:	$\varphi = 50.241^\circ\text{N}$, $\lambda = 18.924^\circ\text{E}$ $H = 17:13:56.5$, $M = 2.2$	
OJC	$\Delta = 63\text{km}$ Pg eZ Sg eE	17 14 07.6 14 15.8
NIE	$\Delta = 135\text{km}$ Pg eZ Sg eE	17 14 19.6 14 35.8
KSP	$\Delta = 198\text{km}$ Pg eZ Sg eN	17 14 29.6 14 53.0

MAR 8		
GIG:	$\varphi = 50.068^\circ\text{N}$, $\lambda = 18.459^\circ\text{E}$ $H = 20:14:58.1$, $M = 2.4$	
RAC	$\Delta = 19\text{km}$ Pg iZ Sg eNE	20 15 02.6 D 15 05.9
OJC	$\Delta = 97\text{km}$ Pg eZ Sg eN	20 15 14.9 15 27.1
NIE	$\Delta = 152\text{km}$ Pg eZ Sg eN	20 15 23.2 15 41.9
KSP	$\Delta = 176\text{km}$ Pg eZ Sg eN	20 15 26.3 15 48.3
MAR 9		
	$\varphi = 50.05^\circ\text{N}$, $\lambda = 18.44^\circ\text{E}$ $H = 00:01:04.4$, $M = 2.1$	
RAC	$\Delta = 18\text{km}$ Pg eZ Sg eNE	00 01 08.6 01 11.6
OJC	$\Delta = 98\text{km}$ Pg eZ Sg eN	00 01 21.4 01 33.9
NIE	$\Delta = 152\text{km}$ Pg eZ Sg eN	00 01 29.4 01 48.7
MAR 9		
	$\varphi = 50.25^\circ\text{N}$, $\lambda = 18.88^\circ\text{E}$ $H = 03:31:52.5$, $M = 2.2$	
OJC	$\Delta = 65\text{km}$ Pg eZ Sg eN	03 32 04.5 32 12.8
NIE	$\Delta = 138\text{km}$ Pg eZ Sg eE	03 32 15.3 32 33.5
KSP	$\Delta = 195\text{km}$ Pg eZ Sg eN	03 32 25.7 32 48.6
MAR 9		
	$\varphi = 50.19^\circ\text{N}$, $\lambda = 18.78^\circ\text{E}$ $H = 08:42:54.1$, $M = 2.5$	
OJC	$\Delta = 73\text{km}$ Pg eZ Sg eN	08 43 07.5 43 16.8

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NIE	$\Delta = 140\text{km}$			
	Pg eZ	08	43	17.3
	Sg eE		43	35.3
KSP	$\Delta = 191\text{km}$			
	Pg eZ	08	43	26.2
	Sg eN		43	49.6
MAR 9				
GIG: $\phi = 50.067^\circ\text{N}$, $\lambda = 18.424^\circ\text{E}$				
H = 22:09:51.2, M = 2.4				
RAC	$\Delta = 17\text{km}$			
	Pg iZ	22	09	55.1 C
	Sg eNE		09	57.9
OJC	$\Delta = 99\text{km}$			
	Pg eZ	22	10	08.2
	Sg eN		10	20.8
NIE	$\Delta = 154\text{km}$			
	Pg eZ	22	10	16.4
	Sg eN		10	36.7
KSP	$\Delta = 174\text{km}$			
	Pn eZ	22	10	18.8
	Pg eZ		10	20.6
	Sg eN		10	40.8

MAR 9

GIG: $\varphi = 50.261^{\circ}\text{N}$, $\lambda = 18.862^{\circ}\text{E}$
 $H = 22:39:18.0$, $M = 2.3$

0JC $\Delta = 67\text{km}$

Pg eZ	22	39	30.4
Sg eE		39	38.8

NIE $\Delta = 140\text{km}$

Pg eZ	22	39	41.0
Sg eE		39	59.2

KSP $\Delta = 193\text{km}$

Pg eZ	22	39	51.0
Sg eN	40	13.8	

MAR 10

GIG: $\varphi = 50.076^{\circ}\text{N}$, $\lambda = 19.127^{\circ}\text{E}$
 $H = 01:59:45.1$, $M = 2.4$

OJC $\Delta = 50\text{km}$

Pg eZ	01 59 54.3
Sg eN	02 00 00.6

NIE $\Delta = 112\text{km}$
Pg eZ 02 00 03.0
Sg eE 00 18.8

KSP	$\Delta = 218\text{km}$		
Pn	eZ	02 00	19.7
Pg	eZ	00	21.8
Sg	eZ	00	47.0

MAR 10

GIG: $\varphi = 50.064^{\circ}\text{N}$, $\lambda = 18.423^{\circ}\text{E}$
 $H = 05:09:35.1$, $M = 2.4$

RAC $\Delta = 16\text{km}$
Pg iZ 05 09 38.8 D
Sg eNE 09 41.9

OJC $\Delta = 100\text{km}$
Pg eZ 05 09 51.9
Sq eN 10 04.6

NIE $\Delta = 154\text{km}$
Pg eZ 05 10 00.2
Sq eN 10 19.3

KSP $\Delta = 174\text{km}$
Pg eZ 05 10 03.0
Sg eN 10 25.6

MAR 10

$\varphi = 50.16^\circ\text{N}$, $\lambda = 19.31^\circ\text{E}$
 $H = 10:48:42.9$, $M = 2.3$

OJC $\Delta = 35\text{km}$

Pg eZ	10	48	48.6
Sg eN		48	53.4

NIE $\Delta = 110\text{km}$
Pg eZ 10 49 01.2
Sg eE 49 16.0

KSP $\Delta = 227\text{km}$

Pg	eE	10	49	22.3
Sn	eN	49	46.7	

MAR 10

GIG: $\varphi = 50.234^{\circ}\text{N}$, $\lambda = 19.040^{\circ}\text{E}$
 $H = 19:46:47.6$, $M = 2.1$

OJC $\Delta = 54\text{km}$
Pg eZ 19 46 57.7
Sq eN 47 05.1

NIE $\Delta = 129\text{km}$
Pg eZ 19 47 08.9
Sg eN 47 25.6

KSP $\Delta = 206\text{km}$

Pg eE	19	47	22.8
Sg eN	47	46.6	

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MAR 10

GIG: $\varphi = 50.040^\circ\text{N}$, $\lambda = 18.468^\circ\text{E}$
H = 19:57:18.5, M = 2.1

OJC $\Delta = 97\text{km}$
Pg eZ 19 57 35.4
Sg eN 57 47.6

NIE $\Delta = 150\text{km}$
Pg eZ 19 57 43.0
Sg eE 58 02.3

KSP $\Delta = 178\text{km}$
Pn eZ 19 57 46.4
Pg eZ 57 48.6
Sg eE 58 09.6

MAR 11

GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.460^\circ\text{E}$
H = 12:50:23.0, M = 2.2

RAC $\Delta = 19\text{km}$
Pg eZ 12 50 27.6
Sg eNE 50 30.8

OJC $\Delta = 97\text{km}$
Pg eZ 12 50 39.9
Sg eN 50 52.0

NIE $\Delta = 151\text{km}$
Pg eZ 12 50 47.6
Sg eE 51 06.0

KSP $\Delta = 177\text{km}$
Pg eZ 12 50 54.0
Sg eN 51 13.5

MAR 11

$\varphi = 50.16^\circ\text{N}$, $\lambda = 19.29^\circ\text{E}$
H = 15:26:32.3, M = 2.3

OJC $\Delta = 38\text{km}$
Pg eZ 15 26 39.5
Sg eN 26 44.1

NIE $\Delta = 110\text{km}$
Pg eZ 15 26 50.5
Sg eE 27 05.1

KSP $\Delta = 225\text{km}$
Pg eZ 15 27 11.4
Sg eN 27 36.9

MAR 11

GIG: $\varphi = 50.276^\circ\text{N}$, $\lambda = 18.891^\circ\text{E}$
H = 22:55:34.0, M = 2.2

OJC $\Delta = 65\text{km}$
Pg eZ 22 55 46.2
Sg eE 55 54.5

NIE $\Delta = 140\text{km}$
Pg eZ 22 55 57.8
Sg eE 56 14.9

KSP $\Delta = 194\text{km}$
Pg eZ 22 56 07.8
Sg eN 56 29.5

MAR 12

GIG: $\varphi = 50.051^\circ\text{N}$, $\lambda = 18.453^\circ\text{E}$
H = 01:16:51.4, M = 2.1

RAC $\Delta = 19\text{km}$
Pg iZ 01 16 55.6 D
Sg eNE 16 58.9

OJC $\Delta = 98\text{km}$
Pg eZ 01 17 08.2
Sg eN 17 21.4

NIE $\Delta = 151\text{km}$
Pg eZ 01 17 16.8
Sg eE 17 36.0

KSP $\Delta = 177\text{km}$
Pg eE 01 17 20.4
Sg eN 17 42.0

MAR 13

GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$
H = 16:14:51.6, M = 2.6

RAC $\Delta = 52\text{km}$
Pg eZ 16 15 01.7
Sg eNE 15 08.9

OJC $\Delta = 67\text{km}$
Pg eZ 16 15 03.9
Sg eN 15 12.3

NIE $\Delta = 141\text{km}$
Pg eZ 16 15 14.8
Sg eE 15 32.4

KSP $\Delta = 193\text{km}$
Pg eZ 16 15 24.4
Sg eN 15 47.0

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MAR 14

GIG: $\varphi = 50.234^{\circ}\text{N}$, $\lambda = 19.040^{\circ}\text{E}$
H = 22:39:58.1, M = 2.1

OJC $\Delta = 55\text{km}$
Pg eZ 22 40 08.2
Sg eN 40 15.4

NIE $\Delta = 129\text{km}$
Pg eZ 22 40 19.2
Sg eN 40 35.9

KSP $\Delta = 205\text{km}$
Pg eZ 22 40 32.7
Sg eN 40 57.3

MAR 15

GIG: $\varphi = 50.232^{\circ}\text{N}$, $\lambda = 18.922^{\circ}\text{E}$
H = 00:06:21.2, M = 2.1

OJC $\Delta = 62\text{km}$
Pg eZ 00 06 32.7
Sg eZ 06 40.9

NIE $\Delta = 134\text{km}$
Pg eZ 00 06 43.6
Sg eE 07 01.1

KSP $\Delta = 198\text{km}$
Pg eZ 00 06 54.6
Sg eN 07 18.3

MAR 15

GIG: $\varphi = 50.260^{\circ}\text{N}$, $\lambda = 18.863^{\circ}\text{E}$
H = 01:11:14.2, M = 2.5

OJC $\Delta = 67\text{km}$
Pg eZ 01 11 26.2
Sg eN 11 35.6

NIE $\Delta = 140\text{km}$
Pg eZ 01 11 36.8
Sg eE 11 54.9

KSP $\Delta = 193\text{km}$
Pg iZ 01 11 47.0
Sg eN 12 09.7

MAR 15

$\varphi = 50.22^{\circ}\text{N}$, $\lambda = 18.82^{\circ}\text{E}$
H = 05:12:18.6, M = 2.3

RAC $\Delta = 48\text{km}$
Pg eZ 05 12 28.2
Sg eNE 12 34.5

OJC $\Delta = 69\text{km}$
Pg eZ 05 12 31.0
Sg eE 12 39.1

NIE $\Delta = 140\text{km}$
Pg eZ 05 12 41.2
Sg eE 12 59.3

KSP $\Delta = 192\text{km}$
Pg eZ 05 12 50.9
Sg eN 13 13.7

MAR 15

GIG: $\varphi = 49.990^{\circ}\text{N}$, $\lambda = 18.684^{\circ}\text{E}$
H = 21:10:30.8, M = 2.2

RAC $\Delta = 37\text{km}$
Pg eZ 21 10 39.9
(Sg) eNE 10 43.9

OJC $\Delta = 84\text{km}$
Pg eZ 21 10 45.3
Sg eE 10 55.8

NIE $\Delta = 133\text{km}$
Pg eZ 21 10 52.4
Sg eE 11 09.7

MAR 15

GIG: $\varphi = 50.259^{\circ}\text{N}$, $\lambda = 18.893^{\circ}\text{E}$
H = 21:20:31.0, M = 2.2

OJC $\Delta = 65\text{km}$
Pg eZ 21 20 43.0
Sg eE 20 51.1

NIE $\Delta = 138\text{km}$
Pg eZ 21 20 53.6
Sg eE 21 11.3

KSP $\Delta = 195\text{km}$
Pg eE 21 21 04.3
Sg eN 21 27.4

MAR 16

GIG: $\varphi = 50.171^{\circ}\text{N}$, $\lambda = 19.296^{\circ}\text{E}$
H = 07:48:27.4, M = 2.3

OJC $\Delta = 36\text{km}$
Pg eZ 07 48 34.7
Sg eN 48 39.4

NIE $\Delta = 111\text{km}$
Pg eZ 07 48 45.6
Sg eE 49 00.2

KSP $\Delta = 226\text{km}$
Pg eE 07 49 05.4
Sn eN 49 29.4

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MAR 16

GIG: $\varphi = 49.971^\circ\text{N}$, $\lambda = 18.640^\circ\text{E}$
H = 10:48:56.2, M = 2.4

OJC $\Delta = 87\text{km}$
Pg eZ 10 49 11.2
Sg eE 49 22.3

NIE $\Delta = 135\text{km}$
Pg eZ 10 49 17.7
Sg eE 49 36.2

KSP $\Delta = 193\text{km}$
Pg eZ 10 49 30.2
Sg eN 49 51.2

MAR 16

$\varphi = 50.26^\circ\text{N}$, $\lambda = 18.84^\circ\text{E}$
H = 19:37:55.4, M = 2.1

OJC $\Delta = 68\text{km}$
Pg eZ 19 38 08.2
Sg eE 38 15.9

NIE $\Delta = 141\text{km}$
Pg eZ 19 38 19.0
Sg eE 38 38.5

KSP $\Delta = 192\text{km}$
Pg eZ 19 38 27.7
Sg eN 38 50.3

MAR 17

GIG: $\varphi = 50.234^\circ\text{N}$, $\lambda = 19.040^\circ\text{E}$
H = 00:51:17.0, M = 2.1

OJC $\Delta = 54\text{km}$
Pg eZ 00 51 27.0
Sg eN 51 34.0

NIE $\Delta = 129\text{km}$
Pg eZ 00 51 38.3
Sg eE 51 54.5

KSP $\Delta = 206\text{km}$
Pg eE 00 51 51.6
Sg eE 52 15.1

MAR 17

GIG: $\varphi = 50.262^\circ\text{N}$, $\lambda = 18.930^\circ\text{E}$
H = 11:44:06.3, M = 2.4

OJC $\Delta = 62\text{km}$
Pg eZ 11 44 17.7
Sg eEN 44 25.9

NIE $\Delta = 136\text{km}$
Pg eZ 11 44 28.3
Sg eE 44 45.9

KSP $\Delta = 198\text{km}$
Pg eZ 11 44 39.7
Sg eN 45 03.3

MAR 17

GIG: $\varphi = 50.254^\circ\text{N}$, $\lambda = 18.884^\circ\text{E}$
H = 13:07:20.7, M = 2.4

OJC $\Delta = 65\text{km}$
Pg eZ 13 07 32.8
Sg eN 07 41.2

NIE $\Delta = 139\text{km}$
Pg eZ 13 07 43.5
Sg eN 08 01.4

KSP $\Delta = 195\text{km}$
Pn eZ 13 07 51.3
Pg eZ 07 53.7
Sn eN 08 14.1
Sg eN 08 16.8

MAR 17

GIG: $\varphi = 50.068^\circ\text{N}$, $\lambda = 18.464^\circ\text{E}$
H = 13:29:20.6, M = 2.6

RAC $\Delta = 19\text{km}$
Pg iZ 13 29 25.0 D
Sg eNE 29 28.3

OJC $\Delta = 97\text{km}$
Pg eZ 13 29 37.3
Sg eE 29 49.9

NIE $\Delta = 151\text{km}$
Pg eZ 13 29 45.5
Sg eN 30 05.5

KSP $\Delta = 176\text{km}$
Pg eZ 13 29 48.9
Sg eN 30 10.9

MAR 17

$\varphi = 50.26^\circ\text{N}$, $\lambda = 18.93^\circ\text{E}$
H = 21:37:19.8, M = 2.1

OJC $\Delta = 62\text{km}$
Pg eZ 21 37 31.4
Sg eE 37 39.3

NIE $\Delta = 136\text{km}$
Pg eZ 21 37 42.2
Sg eE 37 59.6

KSP $\Delta = 198\text{km}$
Pg eZ 21 37 53.1
Sg eN 38 16.3

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MAR 17

GIG: $\varphi = 50.171^\circ\text{N}$, $\lambda = 19.298^\circ\text{E}$
H = 21:41:49.7, M = 2.5

OJC $\Delta = 36\text{km}$
Pg iZ 21 41 56.6 D
Sg iE 42 01.0

NIE $\Delta = 111\text{km}$
Pg eZ 21 42 07.3
Sg eN 42 22.8

KSP $\Delta = 226\text{km}$
Pn eZ 21 42 25.4
Pg eZ 42 27.3
Sg eE 42 54.6

MAR 17

GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.893^\circ\text{E}$
H = 22:17:22.7, M = 2.1

OJC $\Delta = 64\text{km}$
Pg eZ 22 17 34.7
Sg eE 17 43.1

NIE $\Delta = 139\text{km}$
Pg eZ 22 17 45.4
Sg eE 18 03.6

KSP $\Delta = 195\text{km}$
Pg eE 22 17 55.8
Sg eZ 18 18.1

MAR 18

GIG: $\varphi = 50.103^\circ\text{N}$, $\lambda = 19.176^\circ\text{E}$
H = 03:43:50.6, M = 2.5

OJC $\Delta = 47\text{km}$
Pg eZ 03 43 59.4
Sg eN 44 05.5

RAC $\Delta = 70\text{km}$
Pg eZ 03 44 03.3
Sg eNE 44 12.7

NIE $\Delta = 112\text{km}$
Pg eZ 03 44 08.8
Sg eE 44 24.2

KSP $\Delta = 220\text{km}$
Pn eZ 03 44 25.3
Pg eZ 44 27.3
Sn eN 44 51.5

MAR 18

GIG: $\varphi = 50.275^\circ\text{N}$, $\lambda = 18.889^\circ\text{E}$
H = 07:54:02.3, M = 2.3

OJC $\Delta = 65\text{km}$
Pg eZ 07 54 14.4
Sg eE 54 22.2

NIE $\Delta = 139\text{km}$
Pg eZ 07 54 25.3
Sg eE 54 42.8

KSP $\Delta = 194\text{km}$
Pn eZ 07 54 33.9
Pg eZ 54 35.0
Sg eN 54 57.8

MAR 18

GIG: $\varphi = 50.234^\circ\text{N}$, $\lambda = 19.040^\circ\text{E}$
H = 16:39:28.9, M = 2.1

OJC $\Delta = 54\text{km}$
Pg eZ 16 39 38.8
Sg eN 39 46.0

NIE $\Delta = 129\text{km}$
Pg eZ 16 39 50.3
Sg eN 40 07.2

KSP $\Delta = 206\text{km}$
Pg eE 16 40 02.7
Sg eN 40 27.0

MAR 19

GIG: $\varphi = 50.171^\circ\text{N}$, $\lambda = 19.298^\circ\text{E}$
H = 03:28:02.3, M = 2.4

OJC $\Delta = 36\text{km}$
Pg iZ 03 28 08.8 D
Sg eN 28 13.7

NIE $\Delta = 110\text{km}$
Pg eZ 03 28 19.7
Sg eE 28 35.4

KSP $\Delta = 226\text{km}$
Pg eZ 03 28 40.0
Sg eN 29 06.4

MAR 21

GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.424^\circ\text{E}$
H = 04:42:06.6, M = 2.5

RAC $\Delta = 17\text{km}$
Pg iZ 04 42 10.4 D
Sg eNE 42 13.3

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OJC	$\Delta = 99\text{km}$ Pg eZ Sg eN	04 42 23.6 42 36.6
NIE	$\Delta = 154\text{km}$ Pg eZ Sg eE	04 42 31.5 42 51.6
KSP	$\Delta = 174\text{km}$ Pg eE Sg eE	04 42 34.6 42 57.0
MAR 21 GIG: $\varphi = 50.257^\circ\text{N}$, $\lambda = 18.893^\circ\text{E}$ $H = 07:52:21.4$, $M = 2.2$		
OJC	$\Delta = 65\text{km}$ Pg eZ Sg eE	07 52 33.4 52 41.7
NIE	$\Delta = 138\text{km}$ Pg eZ Sg eN	07 52 45.5 53 03.7
KSP	$\Delta = 195\text{km}$ Pg eZ Sg eN	07 52 54.6 53 17.3
MAR 21 GIG: $\varphi = 50.064^\circ\text{N}$, $\lambda = 18.427^\circ\text{E}$ $H = 13:14:13.1$, $M = 2.2$		
RAC	$\Delta = 17\text{km}$ Pg eZ Sg eNE	13 14 16.9 14 20.0
OJC	$\Delta = 100\text{km}$ Pg eZ Sg eN	13 14 30.4 14 42.9
NIE	$\Delta = 153\text{km}$ Pg eZ Sg eE	13 14 38.1 14 58.0
KSP	$\Delta = 175\text{km}$ Pg eN Sg eE	13 14 41.6 15 03.0
MAR 21 GIG: $\varphi = 50.253^\circ\text{N}$, $\lambda = 18.908^\circ\text{E}$ $H = 14:05:47.6$, $M = 2.8$		
RAC	$\Delta = 54\text{km}$ Pg eZ Sg eE	14 05 58.3 06 05.6
OJC	$\Delta = 64\text{km}$ Pg eZ Sg eE	14 05 59.5 06 07.7

NIE	$\Delta = 137\text{km}$ Pg eZ Sg eE	14 06 10.0 06 26.4
KSP	$\Delta = 196\text{km}$ Pg eZ Sg eN	14 06 21.1 06 44.4
MAR 21 GIG: $\varphi = 50.257^\circ\text{N}$, $\lambda = 18.893^\circ\text{E}$ $H = 23:32:03.0$, $M = 2.1$		
OJC	$\Delta = 65\text{km}$ Pg eZ Sg eNE	23 32 15.0 32 23.4
NIE	$\Delta = 138\text{km}$ Pg eZ Sg eE	23 32 25.5 32 42.6
KSP	$\Delta = 195\text{km}$ Pg eZ Sg eN	23 32 36.2 32 59.2
MAR 22 GIG: $\varphi = 50.260^\circ\text{N}$, $\lambda = 18.861^\circ\text{E}$ $H = 03:28:20.2$, $M = 2.2$		
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eNE	03 28 32.7 28 41.4
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eN	03 28 43.0 29 01.0
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	03 28 52.9 29 16.1
MAR 22 GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.426^\circ\text{E}$ $H = 06:20:34.8$, $M = 2.1$		
RAC	$\Delta = 17\text{km}$ Pg eZ Sg eNE	06 20 38.6 20 41.7
OJC	$\Delta = 99\text{km}$ Pg eZ Sg eN	06 20 52.1 21 04.4
NIE	$\Delta = 154\text{km}$ Pg eZ Sg eN	06 20 59.9 21 18.6
KSP	$\Delta = 174\text{km}$ Pg eE Sg eE	06 21 04.7 21 24.8

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MAR 22

GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.423^\circ\text{E}$
H = 06:35:21.1, M = 2.1

RAC $\Delta = 16\text{km}$
Pg eZ 06 35 24.7
Sg eNE 35 27.6

OJC $\Delta = 100\text{km}$
Pg eZ 06 35 38.4
Sg eEN 35 51.8

NIE $\Delta = 154\text{km}$
Pg eZ 06 35 46.1
Sg eE 36 05.9

KSP $\Delta = 174\text{km}$
Pg eEN 06 35 50.8
Sg eEZ 36 11.0

MAR 22

GIG: $\varphi = 50.171^\circ\text{N}$, $\lambda = 19.298^\circ\text{E}$
H = 11:52:14.4, M = 2.3

OJC $\Delta = 36\text{km}$
Pg eZ 11 52 21.0
Sg eN 52 25.6

NIE $\Delta = 111\text{km}$
Pg eZ 11 52 33.3
Sg eE 52 48.1

KSP $\Delta = 226\text{km}$
Pg eZ 11 52 51.7
Sg eE 53 18.2

MAR 22

GIG: $\varphi = 50.238^\circ\text{N}$, $\lambda = 18.923^\circ\text{E}$
H = 18:58:21.4, M = 2.1

OJC $\Delta = 63\text{km}$
Pg eZ 18 58 32.8
Sg eE 58 41.0

NIE $\Delta = 135\text{km}$
Pg eZ 18 58 44.7
Sg eE 59 01.5

KSP $\Delta = 198\text{km}$
Pg eZ 18 58 54.6
Sg eN 59 18.0

MAR 22

GIG: $\varphi = 50.072^\circ\text{N}$, $\lambda = 19.125^\circ\text{E}$
H = 22:47:49.3, M = 2.4

OJC $\Delta = 51\text{km}$
Pg eZ 22 47 58.6
Sg eN 48 05.2

NIE $\Delta = 112\text{km}$
Pg eZ 22 48 07.4
Sg eE 48 23.4

KSP $\Delta = 219\text{km}$
Pg eZ 22 48 26.1
Sg eN 48 52.0

MAR 23

GIG: $\varphi = 50.244^\circ\text{N}$, $\lambda = 19.001^\circ\text{E}$
H = 00:37:40.8, M = 2.2

OJC $\Delta = 57\text{km}$
Pg eZ 00 37 51.2
Sg eE 37 58.6

NIE $\Delta = 132\text{km}$
Pg eZ 00 38 02.6
Sg eE 38 18.6

KSP $\Delta = 203\text{km}$
Pg eZ 00 38 14.9
Sg eN 38 39.5

MAR 23

GIG: $\varphi = 50.258^\circ\text{N}$, $\lambda = 18.886^\circ\text{E}$
H = 04:16:50.9, M = 2.0

OJC $\Delta = 65\text{km}$
Pg eZ 04 17 02.8
Sg eE 17 11.3

NIE $\Delta = 138\text{km}$
Pg eZ 04 17 13.5
Sg eN 17 30.8

KSP $\Delta = 195\text{km}$
Pg eZ 04 17 23.5
Sn eE 17 45.4

MAR 23

GIG: $\varphi = 50.17^\circ\text{N}$, $\lambda = 19.30^\circ\text{E}$
H = 04:33:09.9, M = 2.3

OJC $\Delta = 36\text{km}$
Pg eZ 04 33 16.6
Sg eE 33 21.3

NIE $\Delta = 110\text{km}$
Pg eZ 04 33 27.3
Sg eE 33 42.6

KSP $\Delta = 226\text{km}$
Pn eZ 04 33 46.4
Pg eZ 33 47.6
Sn eN 34 14.0

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MAR 23

GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.467^\circ\text{E}$
H = 05:15:16.5, M = 2.4

RAC $\Delta = 20\text{km}$
Pg eZ 05 15 21.0
Sg eNE 15 24.4

OJC $\Delta = 97\text{km}$
Pg eZ 05 15 33.8
Sg eN 15 45.1

NIE $\Delta = 151\text{km}$
Pg eZ 05 15 41.1
Sg eE 16 00.2

MAR 23

GIG: $\varphi = 50.261^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$
H = 06:46:04.1, M = 2.5

OJC $\Delta = 67\text{km}$
Pg eZ 06 46 16.4
Sg eN 46 24.9

NIE $\Delta = 140\text{km}$
Pg eZ 06 46 27.0
Sg eN 46 44.9

KSP $\Delta = 193\text{km}$
Pg eZ 06 46 37.1
Sg eN 46 59.9

MAR 23

GIG: $\varphi = 50.224^\circ\text{N}$, $\lambda = 18.793^\circ\text{E}$
H = 08:58:29.3, M = 2.4

OJC $\Delta = 72\text{km}$
Pg eZ 08 58 42.4
Sg eE 58 51.4

NIE $\Delta = 141\text{km}$
Pg eZ 08 58 52.5
Sg eN 59 09.5

KSP $\Delta = 190\text{km}$
Pg eZ 08 59 01.9
Sg eN 59 24.3

MAR 23

GIG: $\varphi = 50.275^\circ\text{N}$, $\lambda = 18.890^\circ\text{E}$
H = 16:45:09.3, M = 2.4

OJC $\Delta = 65\text{km}$
Pg eZ 16 45 21.1
Sg eE 45 28.9

NIE $\Delta = 140\text{km}$
Pg eZ 16 45 33.6
Sg eN 45 49.8

KSP $\Delta = 194\text{km}$
Pg eZ 16 45 42.3
Sg eN 46 05.1

MAR 23

$\varphi = 50.32^\circ\text{N}$, $\lambda = 18.91^\circ\text{E}$
H = 18:41:26.3, M = 2.2

OJC $\Delta = 64\text{km}$
Pg eZ 18 41 37.9
Sg eE 41 46.3

NIE $\Delta = 142\text{km}$
Pg eZ 18 41 50.0
Sg eE 42 08.1

KSP $\Delta = 194\text{km}$
Pg eZ 18 41 59.3
Sg eN 42 22.3

MAR 23

GIG: $\varphi = 50.172^\circ\text{N}$, $\lambda = 19.297^\circ\text{E}$
H = 20:41:30.5, M = 2.3

OJC $\Delta = 36\text{km}$
Pg eZ 20 41 37.0
Sg eE 41 41.8

NIE $\Delta = 111\text{km}$
Pg eZ 20 41 48.4
Sg eN 42 03.1

KSP $\Delta = 226\text{km}$
Pg eE 20 42 08.0
Sg eN 42 34.3

MAR 24

GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.887^\circ\text{E}$
H = 00:39:07.0, M = 2.1

OJC $\Delta = 66\text{km}$
Pg eZ 00 39 19.3
Sg eN 39 27.8

NIE $\Delta = 139\text{km}$
Pg eZ 00 39 29.9
Sg eE 39 47.6

KSP $\Delta = 194\text{km}$
Pg eE 00 39 39.6
Sg eN 40 03.4

MAR 24

$\varphi = 50.26^\circ\text{N}$, $\lambda = 18.89^\circ\text{E}$
H = 01:44:30.2, M = 2.1

OJC $\Delta = 64\text{km}$
Pg eZ 01 44 42.2
Sg eN 44 50.5

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NIE $\Delta = 139\text{km}$
Pg eZ 01 44 52.9
Sg eE 45 11.0

KSP $\Delta = 195\text{km}$
Pg eE 01 45 03.3
Sg eN 45 26.4

MAR 24

$\varphi = 50.17^\circ\text{N}$, $\lambda = 19.29^\circ\text{E}$
 $H = 03:03:20.3$, $M = 2.1$

OJC $\Delta = 37\text{km}$
Pg eZ 03 03 27.2
Sg eN 03 31.9

NIE $\Delta = 110\text{km}$
Pg eZ 03 03 38.2
Sg eN 03 53.1

KSP $\Delta = 226\text{km}$
Pg eE 03 03 59.4
Sg eN 04 24.4

MAR 24

$\varphi = 50.26^\circ\text{N}$, $\lambda = 18.86^\circ\text{E}$
 $H = 03:11:08.1$, $M = 2.0$

OJC $\Delta = 67\text{km}$
Pg eZ 03 11 20.5
Sg eE 11 29.0

NIE $\Delta = 139\text{km}$
Pg eZ 03 11 30.8
Sg eN 11 48.4

KSP $\Delta = 193\text{km}$
Pg eZ 03 11 40.9
Sg eN 12 03.5

MAR 24

$\varphi = 50.16^\circ\text{N}$, $\lambda = 18.87^\circ\text{E}$
 $H = 05:49:02.9$, $M = 2.0$

OJC $\Delta = 66\text{km}$
Pg eZ 05 49 15.4
Sg eE 49 22.9

NIE $\Delta = 133\text{km}$
Pg eZ 05 49 26.0
Sg eE 49 43.1

KSP $\Delta = 198\text{km}$
Pg eZ 05 49 36.8
Sg eN 49 58.7

MAR 24

GIG: $\varphi = 50.275^\circ\text{N}$, $\lambda = 18.889^\circ\text{E}$
 $H = 11:56:02.1$, $M = 2.5$

OJC $\Delta = 65\text{km}$
Pg eZ 11 56 14.0
Sg eN 56 22.3

NIE $\Delta = 139\text{km}$
Pg eZ 11 56 24.8
Sg eE 56 42.9

KSP $\Delta = 194\text{km}$
Pn eZ 11 56 33.0
Pg eZ 56 35.4
Sg eN 56 58.2

MAR 24

GIG: $\varphi = 50.068^\circ\text{N}$, $\lambda = 18.458^\circ\text{E}$
 $H = 12:50:01.9$, $M = 2.6$

RAC $\Delta = 19\text{km}$
Pg iZ 12 50 06.1 D
Sg eNE 50 09.5

KSP $\Delta = 176\text{km}$
Pn eZ 12 50 30.2
Pg eZ 50 31.4
Sg eN 50 52.1

MAR 24

GIG: $\varphi = 50.257^\circ\text{N}$, $\lambda = 18.904^\circ\text{E}$
 $H = 12:50:00.7$, $M = 2.6$

OJC $\Delta = 64\text{km}$
Pg eZ 12 50 13.0
Sg eN 50 20.8

NIE $\Delta = 138\text{km}$
Pg eZ 12 50 23.5
Sg eE 50 40.6

MAR 24

GIG: $\varphi = 50.077^\circ\text{N}$, $\lambda = 19.127^\circ\text{E}$
 $H = 15:10:27.3$, $M = 2.7$

OJC $\Delta = 51\text{km}$
Pg eZ 15 10 36.6
Sg eN 10 43.2

RAC $\Delta = 66\text{km}$
Pg eZ 15 10 39.3
Sg eNE 10 47.5

NIE $\Delta = 112\text{km}$
Pg eZ 15 10 45.4
Sg eE 11 01.5

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KSP	$\Delta = 218\text{km}$			
	Pn eZ	15	11	02.2
	Pg eZ		11	04.3
	Sg eE		11	30.5
MAR 24				
	$\varphi = 50.32^\circ\text{N}$, $\lambda = 18.92^\circ\text{E}$			
	$H = 19:57:28.7$, $M = 2.3$			
OJC	$\Delta = 64\text{km}$			
	Pg eZ	19	57	40.5
	Sg eE		57	48.8
NIE	$\Delta = 141\text{km}$			
	Pg eZ	19	57	52.5
	Sg eE		58	10.3
KSP	$\Delta = 194\text{km}$			
	Pg eZ	19	58	01.7
	Sg eZ		58	24.8
MAR 24				
GIG:	$\varphi = 50.259^\circ\text{N}$, $\lambda = 18.887^\circ\text{E}$			
	$H = 20:21:59.0$, $M = 2.2$			
OJC	$\Delta = 65\text{km}$			
	Pg eZ	20	22	11.6
	Sg eE		22	19.3
NIE	$\Delta = 138\text{km}$			
	Pg eZ	20	22	21.9
	Sg eE		22	40.1
KSP	$\Delta = 195\text{km}$			
	Pg eZ	20	22	32.2
	Sg eZ		22	54.3
MAR 24				
	$\varphi = 50.16^\circ\text{N}$, $\lambda = 19.31^\circ\text{E}$			
	$H = 23:30:31.0$, $M = 2.3$			
OJC	$\Delta = 35\text{km}$			
	Pg iZ	23	30	37.7 D
	Sg iN		30	42.3
NIE	$\Delta = 109\text{km}$			
	Pg eZ	23	30	48.4
	Sg eE		31	03.2
KSP	$\Delta = 227\text{km}$			
	Pg eZ	23	31	10.7
	Sg eN		31	35.7

MAR 25				
GIG:	$\varphi = 50.070^\circ\text{N}$, $\lambda = 18.466^\circ\text{E}$			
	$H = 00:35:35.1$, $M = 1.9$			
RAC	$\Delta = 19\text{km}$			
	Pg eZ	00	35	39.6
	Sg eNE		35	42.6
OJC	$\Delta = 97\text{km}$			
	Pg eZ	00	35	51.8
	Sg eN		36	04.4
NIE	$\Delta = 151\text{km}$			
	Pg eZ	00	35	59.6
	Sg eN		36	18.5
MAR 25				
GIG:	$\varphi = 50.072^\circ\text{N}$, $\lambda = 19.127^\circ\text{E}$			
	$H = 06:54:18.9$, $M = 2.3$			
OJC	$\Delta = 50\text{km}$			
	Pg eZ	06	54	28.3
	Sg eN		54	34.8
NIE	$\Delta = 113\text{km}$			
	Pg eZ	06	54	37.0
	Sg eE		54	52.9
KSP	$\Delta = 218\text{km}$			
	Pg eZ	06	54	55.4
	Sg eN		55	23.1
MAR 25				
	$\varphi = 50.27^\circ\text{N}$, $\lambda = 18.86^\circ\text{E}$			
	$H = 22:35:59.4$, $M = 2.1$			
OJC	$\Delta = 67\text{km}$			
	Pg eZ	22	36	12.1
	Sg eE		36	20.5
NIE	$\Delta = 141\text{km}$			
	Pg eZ	22	36	22.5
	Sg eE		36	40.7
KSP	$\Delta = 192\text{km}$			
	Pg eZ	22	36	32.5
	Sg eN		36	55.2
MAR 26				
	$\varphi = 50.24^\circ\text{N}$, $\lambda = 18.88^\circ\text{E}$			
	$H = 00:11:15.2$, $M = 2.1$			
OJC	$\Delta = 65\text{km}$			
	Pg eZ	00	11	27.4
	Sg eN		11	35.4

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NIE	$\Delta = 138\text{km}$ Pg eZ Sg eN	00 11 37.9 11 55.3
KSP	$\Delta = 195\text{km}$ Pg eZ Sg eN	00 11 48.6 12 11.7
MAR 26		
GIG: $\varphi = 50.276^\circ\text{N}$, $\lambda = 18.831^\circ\text{E}$ H = 05:24:56.6, M = 2.0		
OJC	$\Delta = 69\text{km}$ Pg eZ Sg eN	05 25 09.9 25 18.3
NIE	$\Delta = 143\text{km}$ Pg eZ Sg eN	05 25 19.2 25 37.3
KSP	$\Delta = 190\text{km}$ Pg eZ Sg eN	05 25 28.4 25 51.4
MAR 26		
GIG: $\varphi = 50.042^\circ\text{N}$, $\lambda = 18.462^\circ\text{E}$ H = 09:49:04.1, M = 2.2		
RAC	$\Delta = 20\text{km}$ Pg eZ Sg eNE	09 49 08.3 49 12.3
OJC	$\Delta = 98\text{km}$ Pg eZ Sg eN	09 49 20.7 49 34.2
KSP	$\Delta = 178\text{km}$ Pg eZ Sg eN	09 49 33.2 49 54.7
MAR 26		
$\varphi = 50.16^\circ\text{N}$, $\lambda = 19.31^\circ\text{E}$ H = 11:27:22.4, M = 2.3		
OJC	$\Delta = 36\text{km}$ Pg eZ Sg iN	11 27 28.9 27 33.6
NIE	$\Delta = 110\text{km}$ Pg eZ Sg eE	11 27 39.8 27 54.1
KSP	$\Delta = 227\text{km}$ Pg eZ Sn eN	11 28 01.1 28 26.1

MAR 26		
GIG: $\varphi = 50.065^\circ\text{N}$, $\lambda = 18.423^\circ\text{E}$ H = 23:46:42.3, M = 2.0		
RAC	$\Delta = 16\text{km}$ Pg iZ Sg eNE	23 46 45.9 D 46 48.8
OJC	$\Delta = 100\text{km}$ Pg eZ Sg eN	23 46 59.2 47 12.9
KSP	$\Delta = 174\text{km}$ Pg eE Sg eE	23 47 10.0 47 32.5
MAR 27		
$\varphi = 50.06^\circ\text{N}$, $\lambda = 18.43^\circ\text{E}$ H = 03:08:59.1, M = 1.9		
RAC	$\Delta = 17\text{km}$ Pg iZ Sg eNE	03 09 02.9 D 09 06.0
OJC	$\Delta = 100\text{km}$ Pg eZ Sg eN	03 09 16.1 09 29.3
NIE	$\Delta = 153\text{km}$ Pg eZ Sg eN	03 09 24.1 09 44.4
KSP	$\Delta = 175\text{km}$ Pg eZ Sg eZ	03 09 29.0 09 49.9
MAR 27		
$\varphi = 50.20^\circ\text{N}$, $\lambda = 18.88^\circ\text{E}$ H = 10:19:56.9, M = 2.1		
OJC	$\Delta = 66\text{km}$ Pg eZ Sg eE	10 20 09.2 20 17.5
NIE	$\Delta = 135\text{km}$ Pg eZ Sg eZ	10 20 20.6 20 37.8
KSP	$\Delta = 196\text{km}$ Pg eZ Sg eN	10 20 30.3 20 53.6
MAR 28		
$\varphi = 50.04^\circ\text{N}$, $\lambda = 18.42^\circ\text{E}$ H = 01:19:38.0, M = 2.0		
RAC	$\Delta = 17\text{km}$ Pg eZ Sg eNE	01 19 41.7 19 44.8

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OJC	$\Delta = 100\text{km}$ Pg eZ Sg eN	01 19 55.0 20 08.6		KSP	$\Delta = 219\text{km}$ Pg eZ Sg eE	03 44 57.5 45 23.2
NIE	$\Delta = 153\text{km}$ Pg eZ Sg eN	01 20 02.9 20 23.1		MAR 30 GIG:	$\varphi = 50.076^\circ\text{N}, \lambda = 19.127^\circ\text{E}$ $H = 15:23:46.3, M = 2.6$	
KSP	$\Delta = 175\text{km}$ Pg eZ Sg eZ	01 20 07.8 20 28.5		OJC	$\Delta = 51\text{km}$ Pg eZ Sg eN	15 23 55.9 24 02.4
MAR 29	$\varphi = 50.22^\circ\text{N}, \lambda = 18.84^\circ\text{E}$ $H = 15:59:29.6, M = 2.2$			NIE	$\Delta = 112\text{km}$ Pg eZ Sg eE	15 24 04.6 24 20.2
OJC	$\Delta = 68\text{km}$ Pg eZ Sg eE	15 59 42.4 59 50.4		KSP	$\Delta = 218\text{km}$ Pg eZ Sg eZ	15 24 23.3 24 48.9
NIE	$\Delta = 139\text{km}$ Pg eZ Sg eE	15 59 54.0 16 00 11.7		MAR 30 GIG:	$\varphi = 50.046^\circ\text{N}, \lambda = 18.471^\circ\text{E}$ $H = 16:57:09.3, M = 2.2$	
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	16 00 02.6 00 25.1		RAC	$\Delta = 20\text{km}$ Pg eZ Sg eNE	16 57 13.5 57 17.6
MAR 29	$\varphi = 50.16^\circ\text{N}, \lambda = 19.03^\circ\text{E}$ $H = 19:14:27.4, M = 2.2$			OJC	$\Delta = 97\text{km}$ Pg eZ Sg eN	16 57 25.7 57 38.7
OJC	$\Delta = 56\text{km}$ Pg eZ Sg eN	19 14 37.7 14 44.4		NIE	$\Delta = 150\text{km}$ Pg eZ Sg eE	16 57 33.3 57 53.1
NIE	$\Delta = 124\text{km}$ Pg eZ Sg eE	19 14 49.0 15 05.1		KSP	$\Delta = 178\text{km}$ Pg eZ Sg eN	16 57 38.4 58 00.0
KSP	$\Delta = 208\text{km}$ Pg eE Sg eN	19 15 02.7 15 27.7		MAR 31	$\varphi = 50.24^\circ\text{N}, \lambda = 18.88^\circ\text{E}$ $H = 00:39:49.8, M = 2.1$	
MAR 30 GIG:	$\varphi = 50.071^\circ\text{N}, \lambda = 19.127^\circ\text{E}$ $H = 03:44:21.0, M = 2.3$			OJC	$\Delta = 65\text{km}$ Pg eZ Sg eN	00 40 02.0 40 10.3
OJC	$\Delta = 51\text{km}$ Pg iZ Sg eN	03 44 30.5 D 44 37.0		NIE	$\Delta = 138\text{km}$ Pg eZ Sg eE	00 40 12.6 40 29.8
NIE	$\Delta = 112\text{km}$ Pg eZ Sg eE	03 44 39.2 44 55.0		KSP	$\Delta = 195\text{km}$ Pg eE Sg eN	00 40 22.8 40 45.9

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MAR 31

GIG: $\varphi = 50.064^{\circ}\text{N}$, $\lambda = 18.423^{\circ}\text{E}$
H = 02:07:50.0, M = 2.4

RAC $\Delta = 17\text{km}$
Pg iZ 02 07 53.6 D
Sg eNE 07 56.8

OJC $\Delta = 99\text{km}$
Pg eZ 02 08 07.2
Sg eNE 08 19.4

NIE $\Delta = 154\text{km}$
Pg eZ 02 08 14.9
Sg eN 08 35.1

KSP $\Delta = 174\text{km}$
Pg eZ 02 08 18.4
Sg eN 08 39.9

MAR 31

GIG: $\varphi = 50.261^{\circ}\text{N}$, $\lambda = 18.860^{\circ}\text{E}$
H = 02:28:02.6, M = 2.3

OJC $\Delta = 67\text{km}$
Pg eZ 02 28 15.2
Sg eN 28 23.7

NIE $\Delta = 140\text{km}$
Pg eZ 02 28 25.5
Sg eEN 28 43.6

KSP $\Delta = 193\text{km}$
Pg eZ 02 28 35.7
Sg eN 28 58.3

MAR 31

GIG: $\varphi = 50.275^{\circ}\text{N}$, $\lambda = 18.893^{\circ}\text{E}$
H = 03:37:36.1, M = 2.4

OJC $\Delta = 65\text{km}$
Pg eZ 03 37 48.1
Sg eE 37 55.9

NIE $\Delta = 139\text{km}$
Pg eZ 03 37 59.0
Sg eE 38 16.7

KSP $\Delta = 194\text{km}$
Pn eZ 03 38 07.2
Pg eZ 38 09.3
Sg eN 38 31.9

MAR 31

$\varphi = 50.25^{\circ}\text{N}$, $\lambda = 18.90^{\circ}\text{E}$
H = 04:28:53.2, M = 2.1

OJC $\Delta = 65\text{km}$
Pg eZ 04 29 05.0
Sg eNE 29 13.0

NIE $\Delta = 138\text{km}$
Pg eZ 04 29 16.0
Sg eE 29 33.1

KSP $\Delta = 196\text{km}$
Pg eE 04 29 26.2
Sg eN 29 49.8

MAR 31

GIG: $\varphi = 50.257^{\circ}\text{N}$, $\lambda = 18.904^{\circ}\text{E}$
H = 08:36:59.4, M = 2.4

OJC $\Delta = 64\text{km}$
Pg eZ 08 37 10.9
Sg eE 37 19.3

NIE $\Delta = 138\text{km}$
Pg eZ 08 37 22.1
Sg eE 37 39.5

KSP $\Delta = 196\text{km}$
Pg eZ 08 37 32.4
Sg eN 37 54.6

MAR 31

$\varphi = 50.30^{\circ}\text{N}$, $\lambda = 18.90^{\circ}\text{E}$
H = 17:02:56.9, M = 2.1

OJC $\Delta = 64\text{km}$
Pg eZ 17 03 08.8
Sg eE 03 16.6

NIE $\Delta = 141\text{km}$
Pg eZ 17 03 20.0
Sg eE 03 38.0

KSP $\Delta = 194\text{km}$
Pg eN 17 03 29.5
Sg eZ 03 52.3

MAR 31

GIG: $\varphi = 50.260^{\circ}\text{N}$, $\lambda = 18.864^{\circ}\text{E}$
H = 18:18:18.9, M = 2.6

RAC $\Delta = 51\text{km}$
Pg eZ 18 18 28.9
Sg eNE 18 36.1

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OJC	$\Delta = 67\text{km}$ Pg eZ Sg iE	18 18 30.7 D 18 39.2
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eE	18 18 41.9 18 59.5
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	18 18 51.3 19 14.0
<u>APR 1</u> $\varphi = 49.99^\circ\text{N}$, $\lambda = 18.45^\circ\text{E}$ $H = 01:26:04.9$, $M = 2.1$		
RAC	$\Delta = 21\text{km}$ Pg iZ Sg eNE	01 26 09.7 C 26 13.0
OJC	$\Delta = 100\text{km}$ Pg eZ Sg eE	01 26 22.2 26 35.0
NIE	$\Delta = 149\text{km}$ Pg eZ Sg eEN	01 26 29.8 26 50.2
<u>APR 1</u> GIG: $\varphi = 50.057^\circ\text{N}$, $\lambda = 18.450^\circ\text{E}$ $H = 05:24:43.9$, $M = 2.1$		
RAC	$\Delta = 19\text{km}$ Pg eZ Sg eNE	05 24 48.2 24 51.6
OJC	$\Delta = 98\text{km}$ Pg eZ Sg eNE	05 25 00.7 25 13.0
NIE	$\Delta = 152\text{km}$ Pg eZ Sg eE	05 25 08.8 25 28.7
KSP	$\Delta = 176\text{km}$ Pg eZ (Sg) eN	05 25 12.9 25 35.9
<u>APR 1</u> $\varphi = 50.16^\circ\text{N}$, $\lambda = 18.78^\circ\text{E}$ $H = 07:25:19.8$, $M = 2.3$		
OJC	$\Delta = 74\text{km}$ Pg eZ Sg eN	07 25 33.4 25 42.7
NIE	$\Delta = 137\text{km}$ Pg eZ Sg eE	07 25 44.0 26 01.5

KSP	$\Delta = 192\text{km}$ Pg eZ Sg eN	07 25 53.1 26 14.3
<u>APR 1</u> $\varphi = 50.27^\circ\text{N}$, $\lambda = 18.87^\circ\text{E}$ $H = 08:45:26.1$, $M = 2.1$		
OJC	$\Delta = 66\text{km}$ Pg eZ Sg eE	08 45 38.4 45 46.9
NIE	$\Delta = 141\text{km}$ Pg eZ Sg eE	08 45 50.2 46 08.5
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	08 45 58.9 46 21.9
<u>APR 1</u> GIG: $\varphi = 50.261^\circ\text{N}$, $\lambda = 18.889^\circ\text{E}$ $H = 13:27:29.3$, $M = 2.3$		
OJC	$\Delta = 65\text{km}$ Pg eZ Sg eE	13 27 41.4 27 49.7
NIE	$\Delta = 138\text{km}$ Pg eZ Sg eN	13 27 52.2 28 09.3
<u>APR 1</u> GIG: $\varphi = 50.168^\circ\text{N}$, $\lambda = 19.302^\circ\text{E}$ $H = 19:58:54.3$, $M = 2.3$		
OJC	$\Delta = 36\text{km}$ Pg eZ Sg eN	19 59 00.9 59 05.4
NIE	$\Delta = 111\text{km}$ Pg eZ Sg eN	19 59 13.2 59 28.2
KSP	$\Delta = 226\text{km}$ Pg eZ Sg eN	19 59 32.3 59 58.7
<u>APR 1</u> GIG: $\varphi = 50.040^\circ\text{N}$, $\lambda = 19.098^\circ\text{E}$ $H = 22:25:05.0$, $M = 2.5$		
OJC	$\Delta = 54\text{km}$ Pg eZ Sg eN	22 25 14.9 25 21.9
NIE	$\Delta = 111\text{km}$ Pg eZ Sg eE	22 25 23.0 25 39.2

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KSP $\Delta = 218\text{km}$
Pn eZ 22 25 38.9
Pg eE 25 43.2
Sg eN 26 07.3

APR 1

GIG: $\varphi = 50.261^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$
H = 23:55:43.3, M = 2.1

OJC $\Delta = 67\text{km}$
Pg eZ 23 55 56.2
Sg eE 56 04.0

NIE $\Delta = 140\text{km}$
Pg eZ 23 56 05.9
Sg eE 56 24.2

KSP $\Delta = 193\text{km}$
Pg eZ 23 56 16.0
Sg eE 56 39.1

APR 2

GIG: $\varphi = 50.235^\circ\text{N}$, $\lambda = 19.040^\circ\text{E}$
H = 00:07:45.6, M = 2.0

OJC $\Delta = 54\text{km}$
Pg eZ 00 07 55.8
Sg eN 08 03.1

NIE $\Delta = 129\text{km}$
Pg eZ 00 08 07.0
Sg eE 08 22.9

KSP $\Delta = 206\text{km}$
Pg eZ 00 08 21.2
Sg eZ 08 43.8

APR 2

GIG: $\varphi = 50.106^\circ\text{N}$, $\lambda = 19.173^\circ\text{E}$
H = 06:06:33.2, M = 2.2

OJC $\Delta = 46\text{km}$
Pg eZ 06 06 41.8
Sg eN 06 47.8

NIE $\Delta = 111\text{km}$
Pg eZ 06 06 51.3
Sg eN 07 05.8

KSP $\Delta = 221\text{km}$
Pg eZ 06 07 11.7
Sg eE 07 35.5

APR 3

GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.425^\circ\text{E}$
H = 03:05:09.8, M = 2.1

RAC $\Delta = 17\text{km}$
Pg iZ 03 05 13.5 D
Sg eNE 05 16.6

OJC $\Delta = 100\text{km}$
Pg eZ 03 05 27.5
Sg eN 05 39.5

NIE $\Delta = 154\text{km}$
Pg eZ 03 05 34.3
Sg eE 05 53.5

KSP $\Delta = 174\text{km}$
Pg eN 03 05 38.8
Sg eN 05 59.1

APR 4

GIG: $\varphi = 50.065^\circ\text{N}$, $\lambda = 18.424^\circ\text{E}$
H = 02:21:10.6, M = 2.2

RAC $\Delta = 16\text{km}$
Pg iZ 02 21 14.2 D
Sg eNE 21 17.3

OJC $\Delta = 100\text{km}$
Pg eZ 02 21 27.5
Sg eE 21 41.0

NIE $\Delta = 154\text{km}$
Pg eZ 02 21 35.3
Sg eN 21 54.9

KSP $\Delta = 174\text{km}$
Pg eZ 02 21 38.4
Sg eN 22 00.1

APR 4

GIG: $\varphi = 50.072^\circ\text{N}$, $\lambda = 19.127^\circ\text{E}$
H = 09:49:57.0, M = 2.2

OJC $\Delta = 51\text{km}$
Pg eZ 09 50 06.2
Sg eN 50 12.9

NIE $\Delta = 112\text{km}$
Pg eZ 09 50 14.9
(Sg) eE 50 30.8

KSP $\Delta = 219\text{km}$
Pg eE 09 50 34.1
Sg eN 50 59.0

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APR 4

$\varphi = 50.26^\circ\text{N}$, $\lambda = 19.05^\circ\text{E}$
H = 14:02:51.4, M = 2.2

OJC $\Delta = 54\text{km}$
Pg eZ 14 03 01.2
Sg eN 03 08.1

NIE $\Delta = 130\text{km}$
Pg eZ 14 03 13.5
Sg eN 03 31.0

KSP $\Delta = 206\text{km}$
Pg eE 14 03 26.2
Sg eN 03 51.5

APR 4

GIG: $\varphi = 50.171^\circ\text{N}$, $\lambda = 19.298^\circ\text{E}$
H = 16:25:13.5, M = 2.3

OJC $\Delta = 36\text{km}$
Pg eZ 16 25 20.3
Sg eN 25 25.0

NIE $\Delta = 111\text{km}$
Pg eZ 16 25 31.1
Sg eN 25 46.4

KSP $\Delta = 226\text{km}$
Pg eZ 16 25 51.8
Sg eN 26 18.4

APR 4

$\varphi = 50.33^\circ\text{N}$, $\lambda = 18.88^\circ\text{E}$
H = 17:38:21.1, M = 2.0

OJC $\Delta = 66\text{km}$
Pg eZ 17 38 33.7
Sg eE 38 41.1

NIE $\Delta = 144\text{km}$
Pg eZ 17 38 45.1
Sg eN 39 03.0

KSP $\Delta = 192\text{km}$
Pg eZ 17 38 53.7
Sg eN 39 16.5

APR 4

GIG: $\varphi = 50.103^\circ\text{N}$, $\lambda = 19.176^\circ\text{E}$
H = 20:35:08.0, M = 2.4

OJC $\Delta = 47\text{km}$
Pg eZ 20 35 16.6
Sg eN 35 22.8

NIE $\Delta = 112\text{km}$
Pg eZ 20 35 26.1
Sg eE 35 41.5

KSP $\Delta = 220\text{km}$
Pg eE 20 35 44.7
Sg eZ 36 11.5

APR 5

GIG: $\varphi = 50.257^\circ\text{N}$, $\lambda = 18.893^\circ\text{E}$
H = 04:44:22.1, M = 2.8

RAC $\Delta = 53\text{km}$
Pg eZ 04 44 32.2
Sg eNE 44 39.4

OJC $\Delta = 64\text{km}$
Pg iZ 04 44 33.8 D
Sg iNE 44 42.2

NIE $\Delta = 138\text{km}$
Pg eZ 04 44 44.0
Sg eE 45 01.2

KSP $\Delta = 196\text{km}$
Pn eZ 04 44 53.4
Pg eZ 44 55.2
Sg eN 45 18.0

APR 5

$\varphi = 50.19^\circ\text{N}$, $\lambda = 18.81^\circ\text{E}$
H = 05:06:32.8, M = 2.6

OJC $\Delta = 70\text{km}$
Pg eZ 05 06 45.5
Sg eN 06 54.7

NIE $\Delta = 138\text{km}$
Pg eZ 05 06 55.3
Sg eN 07 13.6

KSP $\Delta = 192\text{km}$
Pg eZ 05 07 05.5
Sg eN 07 28.1

APR 5

GIG: $\varphi = 50.066^\circ\text{N}$, $\lambda = 18.459^\circ\text{E}$
H = 05:18:47.4, M = 2.5

RAC $\Delta = 19\text{km}$
Pg iZ 05 18 51.8 D
Sg eNE 18 55.2

OJC $\Delta = 97\text{km}$
Pg eZ 05 19 04.1
Sg eEN 19 16.5

NIE $\Delta = 151\text{km}$
Pg eZ 05 19 11.9
Sg eN 19 30.7

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APR 5

GIG: $\varphi = 50.076^\circ\text{N}$, $\lambda = 19.125^\circ\text{E}$
H = 23:20:09.0, **M = 2.3**

OJC $\Delta = 50\text{km}$
 Pg eZ 23 20 18.3
 Sg eN 20 24.8

NIE $\Delta = 112\text{km}$
 Pg eZ 23 20 26.9
 Sg eE 20 42.6

KSP $\Delta = 218\text{km}$
 Pg eZ 23 20 45.7
 Sg eZ 21 12.2

APR 6

GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.895^\circ\text{E}$
H = 11:56:49.6, **M = 2.5**

OJC $\Delta = 65\text{km}$
 Pg eZ 11 57 02.1
 Sg eN 57 10.1

NIE $\Delta = 138\text{km}$
 Pg eZ 11 57 11.5
 Sg eN 57 28.8

KSP $\Delta = 195\text{km}$
 Pg eZ 11 57 22.8
 Sg eN 57 46.3

APR 6

GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$
H = 14:02:56.5, **M = 2.3**

OJC $\Delta = 67\text{km}$
 Pg eZ 14 03 09.1
 Sg eE 03 17.4

NIE $\Delta = 140\text{km}$
 Pg eZ 14 03 20.1
 Sg eN 03 37.0

KSP $\Delta = 193\text{km}$
 Pg eE 14 03 29.1
 Sg eN 03 52.2

APR 6

GIG: $\varphi = 50.068^\circ\text{N}$, $\lambda = 18.425^\circ\text{E}$
H = 17:45:45.3, **M = 3.1**

RAC $\Delta = 17\text{km}$
 Pg iZ 17 45 49.7 C
 Sg eNE 45 52.6

OJC $\Delta = 99\text{km}$
 Pg eZ 17 46 02.7
 Sg eN 46 15.3

NIE $\Delta = 153\text{km}$
 Pg eZ 17 46 09.8
 Sg eN 46 30.3

KSP $\Delta = 175\text{km}$
 Pn eZ 17 46 13.8
 Pg eZ 46 15.3
 Sg eN 46 35.0

KWP $\Delta = 311\text{km}$
 Pg eZ 17 46 38.1
 Sg eNE 47 19.5

APR 8

GIG: $\varphi = 50.066^\circ\text{N}$, $\lambda = 18.422^\circ\text{E}$
H = 04:27:18.6, **M = 2.3**

RAC $\Delta = 16\text{km}$
 Pg iZ 04 27 22.4 D
 Sg eNE 27 25.3

OJC $\Delta = 100\text{km}$
 Pg eZ 04 27 36.0
 Sg eN 27 48.0

NIE $\Delta = 154\text{km}$
 Pg eZ 04 27 43.7
 Sg eE 28 03.6

APR 8

GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.467^\circ\text{E}$
H = 05:01:57.0, **M = 2.6**

RAC $\Delta = 20\text{km}$
 Pg iZ 05 02 01.5 D
 Sg eNE 02 04.6

OJC $\Delta = 97\text{km}$
 Pg eZ 05 02 13.7
 Sg eE 02 26.6

NIE $\Delta = 151\text{km}$
 Pg eZ 05 02 21.4
 Sg eN 02 41.6

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KSP	$\Delta = 177\text{km}$ Pn eZ Pg eZ Sg eN	05 02 25.5 02 26.4 02 47.5
APR 9		
GIG:	$\varphi = 50.261^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$ $H = 09:30:00.9$, $M = 2.3$	
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eN	09 30 12.8 30 20.8
NIE	$\Delta = 141\text{km}$ Pg eZ Sg eE	09 30 24.4 30 41.5
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	09 30 33.3 30 56.2
APR 10		
GIG:	$\varphi = 50.245^\circ\text{N}$, $\lambda = 18.917^\circ\text{E}$ $H = 22:42:43.2$, $M = 2.1$	
OJC	$\Delta = 63\text{km}$ Pg eZ Sg eN	22 42 54.7 43 02.7
NIE	$\Delta = 136\text{km}$ Pg eZ Sg eE	22 43 05.5 43 22.5
KSP	$\Delta = 198\text{km}$ Pg eE Sg eN	22 43 16.5 43 39.8
APR 11		
GIG:	$\varphi = 50.065^\circ\text{N}$, $\lambda = 18.423^\circ\text{E}$ $H = 16:00:18.1$, $M = 2.2$	
RAC	$\Delta = 16\text{km}$ Pg eZ Sg eNE	16 00 21.5 00 24.6
OJC	$\Delta = 100\text{km}$ Pg eZ Sg eE	16 00 36.0 00 49.4
NIE	$\Delta = 154\text{km}$ Pg eZ Sg eN	16 00 42.8 01 02.4

APR 11		
GIG:	$\varphi = 50.259^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$ $H = 16:50:34.3$, $M = 2.4$	
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eE	16 50 46.6 50 55.2
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eN	16 50 57.7 51 14.8
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	16 51 07.2 51 29.9
APR 12		
	$\varphi = 50.20^\circ\text{N}$, $\lambda = 18.79^\circ\text{E}$ $H = 02:05:19.9$, $M = 2.1$	
OJC	$\Delta = 72\text{km}$ Pg eZ Sg eE	02 05 33.1 05 41.1
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eE	02 05 42.9 06 01.2
KSP	$\Delta = 191\text{km}$ Pg eZ Sg eN	02 05 52.8 06 14.6
APR 12		
GIG:	$\varphi = 50.171^\circ\text{N}$, $\lambda = 19.298^\circ\text{E}$ $H = 04:07:57.2$, $M = 2.5$	
OJC	$\Delta = 36\text{km}$ Pg eZ Sg eN	04 08 03.8 08 08.5
NIE	$\Delta = 110\text{km}$ Pg eZ Sg eNE	04 08 14.6 08 29.7
KSP	$\Delta = 226\text{km}$ Pg eZ Sg eN	04 08 36.6 09 01.5
APR 12		
	$\varphi = 50.19^\circ\text{N}$, $\lambda = 18.81^\circ\text{E}$ $H = 18:13:27.8$, $M = 2.0$	
OJC	$\Delta = 71\text{km}$ Pg eZ (Sg) eE	18 13 41.5 13 49.0

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NIE	$\Delta = 138\text{km}$ Pg eZ Sg eN	18 13 50.9 14 07.0
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	18 14 00.8 14 23.8
APR 12		
GIG: $\varphi = 50.103^\circ\text{N}$, $\lambda = 19.175^\circ\text{E}$ H = 22:31:25.9, M = 2.5		
OJC	$\Delta = 46\text{km}$ Pg eZ Sg eN	22 31 34.4 31 40.5
RAC	$\Delta = 70\text{km}$ Pg eZ Sg eNE	22 31 39.0 31 48.4
NIE	$\Delta = 112\text{km}$ Pg eZ Sg eE	22 31 43.8 31 59.2
KSP	$\Delta = 220\text{km}$ Pg eZ Sn eN	22 32 01.3 32 26.8
APR 12		
GIG: $\varphi = 50.078^\circ\text{N}$, $\lambda = 19.126^\circ\text{E}$ H = 22:36:48.0, M = 2.6		
OJC	$\Delta = 50\text{km}$ Pg eZ Sg eN	22 36 57.3 37 03.8
RAC	$\Delta = 67\text{km}$ Pg eZ Sg eNE	22 37 00.6 37 09.7
NIE	$\Delta = 113\text{km}$ Pg eZ Sg eN	22 37 05.9 37 22.2
KSP	$\Delta = 218\text{km}$ Pg eE Sg eE	22 37 24.7 37 50.8
KWP	$\Delta = 261\text{km}$ Pn eZ Pg eZ Sn eNE Sg eNE	22 37 31.0 37 41.3 38 02.8 38 14.2

APR 12		
GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$ H = 23:45:16.3, M = 2.3		
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eN	23 45 28.5 45 37.7
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eE	23 45 38.8 45 56.8
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	23 45 48.6 46 12.3
APR 13		
GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.424^\circ\text{E}$ H = 02:10:22.5, M = 2.2		
RAC	$\Delta = 17\text{km}$ Pg iZ Sg eNE	02 10 26.3 D 10 29.3
OJC	$\Delta = 100\text{km}$ Pg eZ Sg eN	02 10 39.3 10 52.1
NIE	$\Delta = 154\text{km}$ Pg eZ Sg eE	02 10 47.3 11 07.3
KSP	$\Delta = 174\text{km}$ Pg eZ Sg eE	02 10 52.3 11 12.5
APR 13		
GIG: $\varphi = 50.260^\circ\text{N}$, $\lambda = 18.861^\circ\text{E}$ H = 14:32:58.1, M = 2.5		
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eN	14 33 10.5 33 18.9
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eE	14 33 21.7 33 38.9
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	14 33 31.2 33 53.9
APR 13		
GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.458^\circ\text{E}$ H = 20:14:20.9, M = 2.4		
RAC	$\Delta = 19\text{km}$ Pg iZ Sg eNE	20 14 25.1 D 14 28.4

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OJC	$\Delta = 97\text{km}$				KSP	$\Delta = 207\text{km}$			
	Pg eZ	20	14	37.4		Pg eZ	14	47	42.3
	Sg eE		14	50.8		Sg eN		48	07.8
NIE	$\Delta = 152\text{km}$				APR 14				
	Pg eZ	20	14	45.5	GIG:	$\varphi = 50.064^\circ\text{N}$,	$\lambda = 18.424^\circ\text{E}$		
	Sg eE		15	05.3		$H = 16:00:40.9$,	$M = 2.2$		
KSP	$\Delta = 176\text{km}$				RAC	$\Delta = 16\text{km}$			
	Pg eZ	20	14	48.9		Pg iZ	16	00	44.7 D
	Sg eN		15	10.9		Sg eNE		00	47.5
APR 13					OJC	$\Delta = 100\text{km}$			
	$\varphi = 50.22^\circ\text{N}$,					Pg eZ	16	00	57.8
	$\lambda = 18.86^\circ\text{E}$					Sg eN		01	10.5
	$H = 21:34:58.4$,				NIE	$\Delta = 154\text{km}$			
	$M = 2.3$					Pg eZ	16	01	06.7
OJC	$\Delta = 67\text{km}$					Sg eN		01	26.8
	Pg eZ	21	35	10.8	KSP	$\Delta = 174\text{km}$			
	Sg eE		35	19.0		Pg eZ	16	01	08.5
NIE	$\Delta = 137\text{km}$					Sg eZ		01	31.0
	Pg eZ	21	35	21.2	APR 14				
	Sg eE		35	39.3	GIG:	$\varphi = 50.259^\circ\text{N}$,	$\lambda = 18.860^\circ\text{E}$		
KSP	$\Delta = 195\text{km}$					$H = 22:52:47.4$,	$M = 2.3$		
	Pg eZ	21	35	31.1	RAC	$\Delta = 51\text{km}$			
	Sg eN		35	54.4		Pg eZ	22	52	57.0
APR 13						Sg eNE		53	03.1
GIG:	$\varphi = 50.207^\circ\text{N}$,				OJC	$\Delta = 67\text{km}$			
	$\lambda = 19.116^\circ\text{E}$					Pg eZ	22	52	59.8
	$H = 22:55:23.9$,					Sg eE		53	08.2
	$M = 2.5$				NIE	$\Delta = 140\text{km}$			
OJC	$\Delta = 49\text{km}$					Pg eZ	22	53	11.0
	Pg eZ	22	55	33.1		Sg eE		53	29.0
	Sg eN		55	39.4	KSP	$\Delta = 193\text{km}$			
NIE	$\Delta = 122\text{km}$					Pg eZ	22	53	19.9
	Pg eZ	22	55	43.5		Sg Z		53	44.1
	Sg eE		56	00.9	APR 15				
KSP	$\Delta = 212\text{km}$				GIG:	$\varphi = 50.164^\circ\text{N}$,	$\lambda = 19.309^\circ\text{E}$		
	Pg eZ	22	55	59.3		$H = 01:59:23.1$,	$M = 2.3$		
	Sg eN		56	24.3	OJC	$\Delta = 35\text{km}$			
APR 14						Pg eZ	01	59	29.6
	$\varphi = 50.28^\circ\text{N}$,					Sg eNE		59	34.5
	$\lambda = 19.08^\circ\text{E}$				NIE	$\Delta = 111\text{km}$			
	$H = 14:47:08.0$,					Pg eZ	01	59	41.5
	$M = 2.4$				KSP	$\Delta = 226\text{km}$			
OJC	$\Delta = 52\text{km}$					Pg eZ	02	00	00.6
	Pg eZ	14	47	17.6		Sg eN		00	27.2
	Sg eN		47	24.4					
NIE	$\Delta = 131\text{km}$								
	Pg eZ	14	47	30.0					
	Sg eE		47	46.0					

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APR 16

GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.458^\circ\text{E}$
H = 04:39:04.7, M = 2.4

RAC $\Delta = 19\text{km}$
Pg eZ 04 39 08.8
Sg eNE 39 12.3

OJC $\Delta = 97\text{km}$
Pg eZ 04 39 21.3
Sg eE 39 34.7

NIE $\Delta = 152\text{km}$
Pg eZ 04 39 30.0
Sg eE 39 49.0

KSP $\Delta = 176\text{km}$
Pg eZ 04 39 32.9
Sg eN 39 54.8

APR 16

GIG: $\varphi = 50.261^\circ\text{N}$, $\lambda = 18.884^\circ\text{E}$
H = 04:42:16.3, M = 2.1

OJC $\Delta = 65\text{km}$
Pg eZ 04 42 28.1
Sg eE 42 36.6

NIE $\Delta = 139\text{km}$
Pg eZ 04 42 40.0
Sg eE 42 58.5

KSP $\Delta = 194\text{km}$
Pg eZ 04 42 48.4
Sg eN 43 12.8

APR 17

GIG: $\varphi = 50.260^\circ\text{N}$, $\lambda = 18.913^\circ\text{E}$
H = 05:03:54.8, M = 2.6

RAC $\Delta = 55\text{km}$
Pg eZ 05 04 04.9
Sg eNE 04 12.4

OJC $\Delta = 63\text{km}$
Pg eZ 05 04 06.0
Sg eE 04 14.3

NIE $\Delta = 138\text{km}$
Pg eZ 05 04 17.8
Sg eE 04 34.3

KSP $\Delta = 196\text{km}$
Pn eZ 05 04 25.6
Pg iZ 04 27.6
Sg eE 04 50.3

KWP $\Delta = 280\text{km}$
Pn eZ 05 04 39.5
Pg eZ 04 46.2
Sg eNE 05 20.8

APR 18

GIG: $\varphi = 50.240^\circ\text{N}$, $\lambda = 18.918^\circ\text{E}$
H = 00:06:16.6, M = 2.1

RAC $\Delta = 54\text{km}$
Pg eZ 00 06 26.6
Sg eN 06 33.8

OJC $\Delta = 63\text{km}$
Pg eZ 00 06 27.7
Sg eE 06 35.8

KSP $\Delta = 198\text{km}$
Pg eE 00 06 49.2
Sg eN 07 13.0

APR 18

GIG: $\varphi = 50.066^\circ\text{N}$, $\lambda = 18.422^\circ\text{E}$
H = 01:29:00.0, M = 2.1

RAC $\Delta = 16\text{km}$
Pg eZ 01 29 03.8
Sg iN 29 06.9

OJC $\Delta = 100\text{km}$
Pg eZ 01 29 17.0
Sg eN 29 29.7

NIE $\Delta = 154\text{km}$
Pg eZ 01 29 25.9
Sg eNE 29 46.0

KSP $\Delta = 174\text{km}$
Pg eE 01 29 28.0
Sg eZ 29 49.9

APR 19

GIG: $\varphi = 50.068^\circ\text{N}$, $\lambda = 18.424^\circ\text{E}$
H = 05:48:06.6, M = 2.3

RAC $\Delta = 17\text{km}$
Pg eZ 05 48 10.0
Sg eNE 48 13.6

OJC $\Delta = 100\text{km}$
Pg eZ 05 48 23.5
Sg eN 48 36.0

NIE $\Delta = 154\text{km}$
Pg eZ 05 48 32.5
Sg eE 48 52.0

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KSP	$\Delta = 174\text{km}$		
Pg	eN	05 48 36.1	
Sg	eE	48 56.7	
<u>APR 19</u>			
GIG:	$\varphi = 50.260^\circ\text{N}, \lambda = 18.860^\circ\text{E}$		
	$H = 17:04:10.6, M = 2.5$		
OJC	$\Delta = 67\text{km}$		
Pg	eZ	17 04 22.2	
Sg	eE	04 30.9	
NIE	$\Delta = 140\text{km}$		
Pg	eZ	17 04 34.3	
Sg	eE	04 51.5	
KSP	$\Delta = 193\text{km}$		
Pg	eZ	17 04 42.1	
Sg	eN	05 05.5	
<u>APR 19</u>			
GIG:	$\varphi = 50.045^\circ\text{N}, \lambda = 18.469^\circ\text{E}$		
	$H = 19:35:50.5, M = 2.6$		
RAC	$\Delta = 20\text{km}$		
Pg	eZ	19 35 55.0	
Sg	eNE	35 58.6	
OJC	$\Delta = 97\text{km}$		
Pg	eZ	19 36 07.1	
Sg	eN	36 19.2	
NIE	$\Delta = 150\text{km}$		
Pg	eZ	19 36 15.1	
Sg	eN	36 34.2	
KSP	$\Delta = 178\text{km}$		
Pn	eZ	19 36 19.0	
Pg	eZ	36 21.4	
Sg	eN	36 40.7	
<u>APR 19</u>			
GIG:	$\varphi = 50.043^\circ\text{N}, \lambda = 18.466^\circ\text{E}$		
	$H = 21:56:55.8, M = 2.3$		
RAC	$\Delta = 20\text{km}$		
Pg	iZ	21 57 00.4 C	
Sg	eNE	57 03.5	
OJC	$\Delta = 97\text{km}$		
Pg	eZ	21 57 12.6	
Sg	eE	57 24.9	
NIE	$\Delta = 150\text{km}$		
Pg	eZ	21 57 21.5	
Sg	eE	57 40.5	

KSP	$\Delta = 178\text{km}$		
Pg	eZ	21 57 25.0	
Sg	eE	57 47.3	
<u>APR 20</u>			
	$\varphi = 50.06^\circ\text{N}, \lambda = 18.47^\circ\text{E}$		
	$H = 02:23:30.6, M = 2.0$		
RAC	$\Delta = 20\text{km}$		
Pg	eZ	02 23 35.1	
Sg	eNE	23 38.2	
OJC	$\Delta = 97\text{km}$		
Pg	eZ	02 23 47.2	
Sg	eE	23 59.9	
NIE	$\Delta = 150\text{km}$		
Pg	eZ	02 23 56.1	
Sg	eE	24 15.5	
KSP	$\Delta = 177\text{km}$		
Pg	eE	02 24 01.7	
Sg	eE	24 21.6	
<u>APR 20</u>			
GIG:	$\varphi = 50.238^\circ\text{N}, \lambda = 18.999^\circ\text{E}$		
	$H = 11:15:51.0, M = 2.2$		
OJC	$\Delta = 57\text{km}$		
Pg	eZ	11 16 01.6	
Sg	eN	16 09.2	
NIE	$\Delta = 131\text{km}$		
Pg	eZ	11 16 14.0	
Sg	eE	16 31.0	
KSP	$\Delta = 203\text{km}$		
Pg	eZ	11 16 24.8	
Sg	eN	16 49.2	
<u>APR 20</u>			
GIG:	$\varphi = 50.234^\circ\text{N}, \lambda = 19.072^\circ\text{E}$		
	$H = 19:03:05.6, M = 2.2$		
OJC	$\Delta = 52\text{km}$		
Pg	eZ	19 03 15.1	
Sg	eN	03 21.9	
NIE	$\Delta = 128\text{km}$		
Pg	eZ	19 03 27.8	
Sg	eE	03 43.5	
KSP	$\Delta = 208\text{km}$		
Pg	eZ	19 03 40.1	
Sg	eN	04 04.8	

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APR 21

$\varphi = 50.25^\circ\text{N}$, $\lambda = 18.91^\circ\text{E}$
H = 02:28:45.4, M = 2.3

OJC $\Delta = 64\text{km}$
 Pg eZ 02 28 57.2
 Sg eN 29 05.2

NIE $\Delta = 137\text{km}$
 Pg eZ 02 29 09.0
 Sg eE 29 26.5

KSP $\Delta = 196\text{km}$
 Pg eZ 02 29 18.3
 Sg eN 29 41.2

APR 21

GIG: $\varphi = 50.066^\circ\text{N}$, $\lambda = 18.468^\circ\text{E}$
H = 14:20:55.7, M = 2.3

RAC $\Delta = 20\text{km}$
 Pg eZ 14 21 00.5
 Sg eNE 21 03.5

OJC $\Delta = 96\text{km}$
 Pg eZ 14 21 12.2
 Sg eE 21 23.8

NIE $\Delta = 151\text{km}$
 Pg eZ 14 21 21.2
 Sg eE 21 40.0

KSP $\Delta = 177\text{km}$
 Pg eN 14 21 24.6
 Sg eN 21 45.9

APR 21

GIG: $\varphi = 49.961^\circ\text{N}$, $\lambda = 18.561^\circ\text{E}$
H = 15:36:50.7, M = 2.1

RAC $\Delta = 30\text{km}$
 Pg eZ 15 36 57.4
 Sg eNE 37 01.7

OJC $\Delta = 93\text{km}$
 Pg eZ 15 37 06.6
 Sg eN 37 18.4

NIE $\Delta = 140\text{km}$
 Pg eZ 15 37 15.0
 Sg eN 37 32.9

APR 22

$\varphi = 50.24^\circ\text{N}$, $\lambda = 18.88^\circ\text{E}$
H = 05:36:11.1, M = 2.5

RAC $\Delta = 51\text{km}$
 Pg eZ 05 36 20.6
 Sg eNE 36 27.6

OJC $\Delta = 66\text{km}$
 Pg eZ 05 36 23.2
 Sg eN 36 31.8

NIE $\Delta = 137\text{km}$
 Pg eZ 05 36 33.9
 Sg eN 36 52.1

KSP $\Delta = 195\text{km}$
 Pg eZ 05 36 43.0
 Sg eN 37 05.7

APR 22

GIG: $\varphi = 50.068^\circ\text{N}$, $\lambda = 18.423^\circ\text{E}$
H = 07:34:43.9, M = 2.3

RAC $\Delta = 16\text{km}$
 Pg eZ 07 34 47.6
 Sg eNE 34 50.8

OJC $\Delta = 100\text{km}$
 Pg eZ 07 35 00.8
 Sg eE 35 14.5

NIE $\Delta = 154\text{km}$
 Pg eZ 07 35 09.6
 Sg eE 35 29.6

KSP $\Delta = 174\text{km}$
 Pg eZ 07 35 11.7
 Sg eN 35 33.1

APR 22

GIG: $\varphi = 50.078^\circ\text{N}$, $\lambda = 19.127^\circ\text{E}$
H = 11:03:23.2, M = 2.5

OJC $\Delta = 50\text{km}$
 Pg eZ 11 03 32.4
 Sg eN 03 38.9

KSP $\Delta = 218\text{km}$
 Pg eZ 11 03 59.5
 Sn eN 04 24.0
 Sg eN 04 26.2

APR 22

GIG: $\varphi = 50.239^\circ\text{N}$, $\lambda = 18.981^\circ\text{E}$
H = 21:46:20.7, M = 2.3

OJC $\Delta = 58\text{km}$
 Pg eZ 21 46 31.4
 Sg eE 46 38.9

RAC $\Delta = 59\text{km}$
 Pg eZ 21 46 31.7
 Sg eNE 46 39.5

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NIE	$\Delta = 133\text{km}$			
	Pg eZ	21	46	43.5
	Sg eNE		47	00.0
KSP	$\Delta = 202\text{km}$			
	Pg eZ	21	46	54.4
	Sg eE		47	18.7
<u>APR 22</u>				
	$\varphi = 50.29^\circ\text{N}, \lambda = 18.68^\circ\text{E}$			
	$H = 23:15:57.2, M = 2.2$			
RAC	$\Delta = 42\text{km}$			
	Pg eZ	23	16	05.1
	Sg eNE		16	10.4
OJC	$\Delta = 80\text{km}$			
	Pg eZ	23	16	12.0
	Sg eE		16	21.6
KSP	$\Delta = 179\text{km}$			
	Pg eE	23	16	26.7
	Sg eN		16	49.7
<u>APR 23</u>				
GIG:	$\varphi = 50.068^\circ\text{N}, \lambda = 18.458^\circ\text{E}$			
	$H = 03:04:57.7, M = 2.4$			
RAC	$\Delta = 19\text{km}$			
	Pg iZ	03	05	02.0 C
	Sg eNE		05	05.3
OJC	$\Delta = 97\text{km}$			
	Pg eZ	03	05	14.4
	Sg eN		05	26.1
NIE	$\Delta = 152\text{km}$			
	Pg eZ	03	05	23.3
	Sg eE		05	41.8
KSP	$\Delta = 176\text{km}$			
	Pn eZ	03	05	26.0
	Pg eZ		05	26.8
	Sg eE		05	48.2
<u>APR 23</u>				
GIG:	$\varphi = 50.260^\circ\text{N}, \lambda = 18.863^\circ\text{E}$			
	$H = 09:27:43.8, M = 2.6$			
OJC	$\Delta = 67\text{km}$			
	Pg eZ	09	27	56.0
	Sg eN		28	04.5
NIE	$\Delta = 140\text{km}$			
	Pg eZ	09	28	07.9
	Sg eE		28	25.1

KSP	$\Delta = 193\text{km}$			
	Pg eZ	09	28	16.6
	Sg eN		28	38.9
<u>APR 26</u>				
GIG:	$\varphi = 50.068^\circ\text{N}, \lambda = 18.423^\circ\text{E}$			
	$H = 01:58:49.0, M = 2.5$			
RAC	$\Delta = 16\text{km}$			
	Pg iZ	01	58	52.8 D
	Sg eNE		58	55.7
OJC	$\Delta = 100\text{km}$			
	Pg eZ	01	59	05.9
	Sg eN		59	18.6
NIE	$\Delta = 154\text{km}$			
	Pg eZ	01	59	15.9
	Sg eE		59	34.6
KSP	$\Delta = 174\text{km}$			
	Pg eZ	01	59	16.8
	Sg eN		59	38.3
<u>APR 26</u>				
GIG:	$\varphi = 50.046^\circ\text{N}, \lambda = 18.470^\circ\text{E}$			
	$H = 12:19:01.9, M = 2.5$			
RAC	$\Delta = 20\text{km}$			
	Pg eZ	12	19	06.6
	Sg eNE		19	09.8
OJC	$\Delta = 97\text{km}$			
	Pg eZ	12	19	18.8
	Sg eE		19	30.5
NIE	$\Delta = 150\text{km}$			
	Pg eZ	12	19	27.0
	Sg iE		19	47.5
KSP	$\Delta = 178\text{km}$			
	Pg eZ	12	19	30.9
<u>APR 26</u>				
GIG:	$\varphi = 50.104^\circ\text{N}, \lambda = 19.172^\circ\text{E}$			
	$H = 12:40:50.9, M = 2.4$			
OJC	$\Delta = 46\text{km}$			
	Pg eZ	12	40	59.2
	Sg eN		41	05.4
NIE	$\Delta = 112\text{km}$			
	Pg eZ	12	41	10.5
	Sg eE		41	24.5
KSP	$\Delta = 220\text{km}$			
	Pg eZ	12	41	27.3
	Sg eN		41	52.4

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APR 26

$\varphi = 50.29^\circ\text{N}$, $\lambda = 18.97^\circ\text{E}$
H = 17:03:46.4, M = 2.1

OJC $\Delta = 60\text{km}$
 Pg eZ 17 03 57.1
 Sg eE 04 05.2

NIE $\Delta = 137\text{km}$
 Pg eZ 17 04 10.0
 Sg eN 04 26.5

KSP $\Delta = 199\text{km}$
 Pg eZ 17 04 18.9
 Sg eN 04 42.6

APR 27

$\varphi = 50.24^\circ\text{N}$, $\lambda = 18.83^\circ\text{E}$
H = 04:12:15.9, M = 2.5

RAC $\Delta = 50\text{km}$
 Pg eZ 04 12 24.8
 Sg eNE 12 30.9

OJC $\Delta = 69\text{km}$
 Pg eZ 04 12 28.7
 Sg eE 12 37.6

NIE $\Delta = 141\text{km}$
 Pg eZ 04 12 39.9
 Sg eE 12 56.9

KSP $\Delta = 192\text{km}$
 Pg eEZ 04 12 48.0
 Sg eZ 13 10.9

APR 27

GIG: $\varphi = 50.203^\circ\text{N}$, $\lambda = 19.133^\circ\text{E}$
H = 05:04:19.0, M = 2.3

OJC $\Delta = 47\text{km}$
 Pg eZ 05 04 27.7
 Sg eN 04 34.1

NIE $\Delta = 122\text{km}$
 Pg eZ 05 04 40.3
 (Sg) eN 04 56.8

KSP $\Delta = 213\text{km}$
 Pn eE 05 04 52.5
 Pg eZ 04 55.6
 Sn eN 05 18.2

APR 27

GIG: $\varphi = 50.042^\circ\text{N}$, $\lambda = 18.467^\circ\text{E}$
H = 06:06:52.1, M = 2.3

RAC $\Delta = 20\text{km}$
 Pg eZ 06 06 56.7
 Sg eNE 06 59.7

NIE $\Delta = 150\text{km}$
 Pg eZ 06 07 16.9
 Sg eE 07 37.0

KSP $\Delta = 178\text{km}$
 Pg eZ 06 07 20.8
 Sg eE 07 42.6

APR 27

GIG: $\varphi = 50.232^\circ\text{N}$, $\lambda = 19.071^\circ\text{E}$
H = 10:20:55.3, M = 2.4

OJC $\Delta = 52\text{km}$
 Pg eZ 10 21 05.2
 Sg eN 21 11.9

NIE $\Delta = 127\text{km}$
 Pg eZ 10 21 17.2
 Sg eE 21 33.5

KSP $\Delta = 208\text{km}$
 Pg eE 10 21 29.8
 Sg eN 21 55.3

APR 27

GIG: $\varphi = 50.076^\circ\text{N}$, $\lambda = 19.127^\circ\text{E}$
H = 14:51:05.7, M = 2.2

OJC $\Delta = 50\text{km}$
 Pg eZ 14 51 14.9
 Sg eN 51 21.2

NIE $\Delta = 113\text{km}$
 Pg eZ 14 51 24.1
 (Sg) eN 51 40.5

KSP $\Delta = 218\text{km}$
 Pg eZ 14 51 42.6
 Sg eN 52 08.9

APR 27

GIG: $\varphi = 50.072^\circ\text{N}$, $\lambda = 19.127^\circ\text{E}$
H = 22:11:11.4, M = 2.2

OJC $\Delta = 50\text{km}$
 Pg eZ 22 11 20.4
 Sg iN 11 27.1

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NIE	$\Delta = 112\text{km}$		
	Pg eZ	22 11 30.0	
	(Sg) eE	11 46.1	
KSP	$\Delta = 219\text{km}$		
	Pg eZ	22 11 48.0	
	Sg eE	12 14.0	
APR 28			
GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$			
H = 02:17:37.6, M = 2.4			
OJC	$\Delta = 67\text{km}$		
	Pg eZ	02 17 49.9	
	Sg eEN	17 58.4	
NIE	$\Delta = 140\text{km}$		
	Pg eZ	02 18 02.0	
	Sg eE	18 19.0	
KSP	$\Delta = 193\text{km}$		
	Pg eZ	02 18 10.2	
	Sg eN	18 32.9	
APR 28			
GIG: $\varphi = 50.250^\circ\text{N}$, $\lambda = 18.949^\circ\text{E}$			
H = 10:52:33.7, M = 2.3			
OJC	$\Delta = 61\text{km}$		
	Pg eZ	10 52 45.1	
	Sg eN	52 53.1	
NIE	$\Delta = 135\text{km}$		
	Pg eZ	10 52 55.8	
	(Sg) eE	53 15.2	
KSP	$\Delta = 199\text{km}$		
	Pg eN	10 53 05.7	
	Sn eZ	53 29.0	
APR 28			
GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.427^\circ\text{E}$			
H = 13:41:34.0, M = 2.4			
RAC	$\Delta = 17\text{km}$		
	Pg eZ	13 41 37.7	
	Sg eNE	41 40.7	
OJC	$\Delta = 99\text{km}$		
	Pg eZ	13 41 51.0	
	Sg eE	42 04.7	
NIE	$\Delta = 154\text{km}$		
	Pg eZ	13 41 59.9	
	Sg eE	42 20.0	

KSP	$\Delta = 174\text{km}$		
	Pg eZ	13 42 02.0	
	Sg eN	42 24.4	
APR 29			
GIG: $\varphi = 50.068^\circ\text{N}$, $\lambda = 18.425^\circ\text{E}$			
H = 00:22:55.8, M = 2.1			
RAC	$\Delta = 17\text{km}$		
	Pg iZ	00 22 59.6 D	
	Sg eNE	23 02.5	
OJC	$\Delta = 99\text{km}$		
	Pg eZ	00 23 12.9	
	Sg eN	23 25.5	
KSP	$\Delta = 174\text{km}$		
	Pg eZ	00 23 23.8	
	Sg eE	23 46.1	
APR 29			
GIG: $\varphi = 49.961^\circ\text{N}$, $\lambda = 18.562^\circ\text{E}$			
H = 03:39:37.0, M = 2.2			
RAC	$\Delta = 29\text{km}$		
	Pg eZ	03 39 43.9	
	Sg eNE	39 48.3	
OJC	$\Delta = 93\text{km}$		
	Pg eZ	03 39 53.4	
	Sg eN	40 04.6	
KSP	$\Delta = 188\text{km}$		
	Pg eZ	03 40 07.0	
	Sg eE	40 31.2	
APR 29			
GIG: $\varphi = 50.078^\circ\text{N}$, $\lambda = 19.127^\circ\text{E}$			
H = 18:59:36.1, M = 2.3			
OJC	$\Delta = 50\text{km}$		
	Pg eZ	18 59 44.9	
	Sg eNE	59 51.6	
KSP	$\Delta = 218\text{km}$		
	Pg eZ	19 00 12.6	
	Sg eZ	00 39.0	
APR 29			
GIG: $\varphi = 50.040^\circ\text{N}$, $\lambda = 18.468^\circ\text{E}$			
H = 22:32:29.7, M = 2.2			
RAC	$\Delta = 20\text{km}$		
	Pg iZ	22 32 34.3 C	
	Sg iN	32 37.8	
OJC	$\Delta = 97\text{km}$		
	Pg eZ	22 32 46.7	
	Sg eE	32 59.1	

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KSP	$\Delta = 178\text{km}$ Pg eZ Sg eZ	22 33 00.8 33 21.6		NIE	$\Delta = 140\text{km}$ Pg eZ Sg eN	22 00 07.8 00 26.3	
APR 30				KSP $\Delta = 188\text{km}$ Pg eZ Sg eZ			
GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.466^\circ\text{E}$ $H = 22:14:00.7$, $M = 2.4$							
RAC	$\Delta = 19\text{km}$ Pg iZ Sg eNE	22 14 05.3 C 14 08.4		MAY 3			
				GIG: $\varphi = 50.218^\circ\text{N}$, $\lambda = 19.131^\circ\text{E}$ $H = 15:07:54.9$, $M = 2.2$			
OJC	$\Delta = 97\text{km}$ Pg eZ Sg eE	22 14 17.5 14 30.2		OJC	$\Delta = 47\text{km}$ Pg eZ Sg eN	15 08 03.2 08 09.7	
KSP	$\Delta = 176\text{km}$ Pn eZ Pg eN Sg eN	22 14 27.6 14 29.1 14 51.3		NIE	$\Delta = 123\text{km}$ Pg eZ (Sg) eE	15 08 14.8 08 32.3	
MAY 2				KSP $\Delta = 213\text{km}$ Pg eZ Sg eE			
GIG: $\varphi = 50.072^\circ\text{N}$, $\lambda = 18.459^\circ\text{E}$ $H = 00:31:23.2$, $M = 2.7$							
RAC	$\Delta = 19\text{km}$ Pg iZ Sg eNE	00 31 27.8 D 31 30.9		MAY 4			
				GIG: $\varphi = 50.068^\circ\text{N}$, $\lambda = 18.425^\circ\text{E}$ $H = 02:13:51.1$, $M = 2.5$			
OJC	$\Delta = 97\text{km}$ Pg eZ Sg eE	00 31 40.1 31 52.1		RAC	$\Delta = 16\text{km}$ Pg iZ Sg eNE	02 13 55.0 D 13 58.1	
NIE	$\Delta = 152\text{km}$ Pg eZ Sg eE	00 31 47.5 32 07.0		OJC	$\Delta = 100\text{km}$ Pg eZ Sg eN	02 14 08.0 14 21.0	
KSP	$\Delta = 176\text{km}$ Pg eZ Sg eN	00 31 51.7 32 13.4		NIE	$\Delta = 154\text{km}$ Pg eZ Sg eE	02 14 17.4 14 36.8	
KWP	$\Delta = 308\text{km}$ Pg eZ Sn eNE Sg eNE	00 32 14.6 32 44.5 32 52.8		KSP	$\Delta = 174\text{km}$ Pg eZ Sg eN	02 14 18.9 14 40.5	
MAY 2				MAY 5			
GIG: $\varphi = 49.962^\circ\text{N}$, $\lambda = 18.562^\circ\text{E}$ $H = 21:59:45.1$, $M = 2.1$				GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$ $H = 05:08:04.6$, $M = 2.5$			
RAC	$\Delta = 30\text{km}$ Pg eZ Sg eNE	21 59 51.8 59 57.2		RAC	$\Delta = 52\text{km}$ Pg eZ Sg eN	05 08 14.7 08 21.7	
OJC	$\Delta = 93\text{km}$ Pg eZ (Sg) eE	22 00 01.4 00 11.6		OJC	$\Delta = 67\text{km}$ Pg eZ Sg eE	05 08 16.8 08 25.0	
				NIE	$\Delta = 141\text{km}$ Pg eZ Sg eN	05 08 29.0 08 46.9	

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KSP	$\Delta = 193\text{km}$			
Pg	eZ	05	08	37.4
Sg	eE		09	00.2
MAY 5				
GIG:	$\varphi = 50.077^\circ\text{N}, \lambda = 19.126^\circ\text{E}$			
	$H = 16:55:16.5, M = 2.4$			
OJC	$\Delta = 51\text{km}$			
Pg	eZ	16	55	25.6
Sg	eN		55	32.3
NIE	$\Delta = 113\text{km}$			
Pg	eZ	16	55	36.2
KSP	$\Delta = 218\text{km}$			
Pn	eZ	16	55	50.0
Sg	eZ		56	19.5
MAY 5				
GIG:	$\varphi = 50.077^\circ\text{N}, \lambda = 19.123^\circ\text{E}$			
	$H = 23:56:45.5, M = 2.3$			
OJC	$\Delta = 51\text{km}$			
Pg	eZ	23	56	54.5
Sg	eE		57	01.1
RAC	$\Delta = 66\text{km}$			
Pg	eZ	23	56	57.5
Sg	eNE		57	05.5
NIE	$\Delta = 113\text{km}$			
Pg	eZ	23	57	05.3
(Sg)	eE		57	21.0
KSP	$\Delta = 218\text{km}$			
Pg	eZ	23	57	21.4
Sg	eE		57	48.1
MAY 6				
GIG:	$\varphi = 50.259^\circ\text{N}, \lambda = 18.862^\circ\text{E}$			
	$H = 09:28:16.2, M = 2.7$			
NIE	$\Delta = 140\text{km}$			
Pg	eZ	09	28	40.4
Sg	eE		28	57.2
KSP	$\Delta = 193\text{km}$			
Pg	iZ	09	28	48.5
Sg	eN		29	11.0
MAY 6				
GIG:	$\varphi = 50.259^\circ\text{N}, \lambda = 18.884^\circ\text{E}$			
	$H = 15:25:01.2, M = 2.1$			
NIE	$\Delta = 139\text{km}$			
Pg	eZ	15	25	24.7
Sg	eE		25	42.6

KSP	$\Delta = 194\text{km}$			
Pg	eE	15	25	33.3
Sg	eN		25	55.7
MAY 6				
GIG:	$\varphi = 50.043^\circ\text{N}, \lambda = 18.465^\circ\text{E}$			
	$H = 21:09:05.0, M = 2.4$			
RAC	$\Delta = 20\text{km}$			
Pg	iZ	21	09	09.2 C
Sg	eNE		09	13.0
NIE	$\Delta = 150\text{km}$			
Pg	eZ	21	09	30.3
Sg	eN		09	49.5
KSP	$\Delta = 178\text{km}$			
Pn	eZ	21	09	33.8
Pg	eZ		09	36.0
Sg	eZ		09	55.1
MAY 6				
GIG:	$\varphi = 50.067^\circ\text{N}, \lambda = 18.423^\circ\text{E}$			
	$H = 23:27:09.6, M = 2.2$			
RAC	$\Delta = 16\text{km}$			
Pg	iZ	23	27	13.2 D
Sg	eNE		27	16.2
NIE	$\Delta = 154\text{km}$			
Pg	eZ	23	27	36.2
Sg	eE		27	56.3
MAY 10				
GIG:	$\varphi = 50.067^\circ\text{N}, \lambda = 18.424^\circ\text{E}$			
	$H = 01:34:08.5, M = 2.4$			
RAC	$\Delta = 16\text{km}$			
Pg	iZ	01	34	12.2 D
Sg	eNE		34	15.4
NIE	$\Delta = 154\text{km}$			
Pg	iZ	01	34	35.2 D
Sg	eE		34	55.1
KSP	$\Delta = 174\text{km}$			
Pg	eE	01	34	36.5
Sg	eN		34	59.2
MAY 10				
GIG:	$\varphi = 50.208^\circ\text{N}, \lambda = 19.061^\circ\text{E}$			
	$H = 15:28:25.1, M = 2.4$			
OJC	$\Delta = 53\text{km}$			
Pg	eZ	15	28	34.5
Sg	eE		28	41.5

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NIE	$\Delta = 126\text{km}$			
Pg	eZ	15	28	46.7
Sg	eN		29	03.9
KSP	$\Delta = 208\text{km}$			
Pg	eZ	15	28	59.1
Sg	eN		29	25.6
<u>MAY 10</u>				
GIG: $\varphi = 50.042^\circ\text{N}$, $\lambda = 18.465^\circ\text{E}$				
H = 20:46:41.4, M = 2.4				
RAC	$\Delta = 20\text{km}$			
Pg	eZ	20	46	45.8
Sg	eNE		46	49.4
OJC	$\Delta = 97\text{km}$			
Pg	eZ	20	46	57.9
Sg	eE		47	10.4
NIE	$\Delta = 150\text{km}$			
Pg	eZ	20	47	07.0
Sg	eE		47	26.7
KSP	$\Delta = 178\text{km}$			
Pg	eZ	20	47	10.1
Sg	eE		47	31.7
<u>MAY 11</u>				
GIG: $\varphi = 50.077^\circ\text{N}$, $\lambda = 19.125^\circ\text{E}$				
H = 02:19:44.5, M = 2.2				
OJC	$\Delta = 51\text{km}$			
Pg	eZ	02	19	53.2
Sg	eE		19	59.9
NIE	$\Delta = 113\text{km}$			
Pg	eZ	02	20	03.7
KSP	$\Delta = 218\text{km}$			
Pg	eZ	02	20	19.9
Sg	eE		20	46.9
<u>MAY 11</u>				
$\varphi = 50.17^\circ\text{N}$, $\lambda = 19.27^\circ\text{E}$				
H = 09:50:50.8, M = 2.2				
OJC	$\Delta = 38\text{km}$			
Pg	eZ	09	50	58.2
Sg	eE		51	02.6
NIE	$\Delta = 112\text{km}$			
Pg	eZ	09	51	09.0
Sg	eE		51	24.8
KSP	$\Delta = 224\text{km}$			
Pg	eE	09	51	27.6
Sn	eN		51	52.7

<u>MAY 11</u>				
GIG: $\varphi = 50.068^\circ\text{N}$, $\lambda = 18.423^\circ\text{E}$				
H = 14:55:51.6, M = 2.4				
RAC	$\Delta = 16\text{km}$			
Pg	eZ	14	55	55.3
Sg	eNE		55	58.4
OJC	$\Delta = 99\text{km}$			
Pg	eZ	14	56	08.1
Sg	eN		56	21.1
NIE	$\Delta = 154\text{km}$			
Pg	eZ	14	56	18.3
Sg	eE		56	37.3
<u>MAY 11</u>				
GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.884^\circ\text{E}$				
H = 19:41:49.5, M = 2.3				
OJC	$\Delta = 65\text{km}$			
Pg	eZ	19	42	01.2
Sg	eE		42	09.8
NIE	$\Delta = 139\text{km}$			
Pg	eZ	19	42	13.8
Sg	eE		42	32.2
KSP	$\Delta = 194\text{km}$			
Pg	eZ	19	42	22.3
Sg	eN		42	45.0
<u>MAY 11</u>				
GIG: $\varphi = 50.077^\circ\text{N}$, $\lambda = 19.127^\circ\text{E}$				
H = 23:30:33.3, M = 2.3				
OJC	$\Delta = 50\text{km}$			
Pg	eZ	23	30	42.3
Sg	eNE		30	48.9
RAC	$\Delta = 66\text{km}$			
Pg	eZ	23	30	45.7
Sg	eNE		30	54.2
NIE	$\Delta = 113\text{km}$			
Pg	eZ	23	30	52.8
KSP	$\Delta = 218\text{km}$			
Pg	eEZ	23	31	09.8
Sg	eN		31	35.8
<u>MAY 12</u>				
GIG: $\varphi = 50.067^\circ\text{N}$, $\lambda = 18.425^\circ\text{E}$				
H = 01:54:27.5, M = 2.0				
RAC	$\Delta = 16\text{km}$			
Pg	iZ	01	54	31.2 C
Sg	eNE		54	34.2

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OJC	$\Delta = 100\text{km}$ Pg eZ Sg eE	01 54 44.2 54 58.0	
NIE	$\Delta = 154\text{km}$ Pg iZ Sg eN	01 54 54.2 D 55 14.4	
MAY 12			
GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$ $H = 11:13:27.0$, $M = 2.4$			
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eN	11 13 39.4 13 47.9	
NIE	$\Delta = 141\text{km}$ Pg eZ Sg eE	11 13 52.5 14 10.0	
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	11 14 00.0 14 22.3	
MAY 12			
GIG: $\varphi = 50.260^\circ\text{N}$, $\lambda = 18.913^\circ\text{E}$ $H = 18:03:19.8$, $M = 2.3$			
OJC	$\Delta = 64\text{km}$ Pg eZ Sg eN	18 03 31.4 D 03 39.4	
NIE	$\Delta = 138\text{km}$ Pg eZ Sg eN	18 03 44.0 04 01.7	
KSP	$\Delta = 196\text{km}$ Pg eZ Sg eN	18 03 52.9 04 16.0	
MAY 12			
GIG: $\varphi = 50.203^\circ\text{N}$, $\lambda = 19.123^\circ\text{E}$ $H = 21:02:41.8$, $M = 2.3$			
OJC	$\Delta = 48\text{km}$ Pg eZ Sg eN	21 02 50.3 02 56.7	
NIE	$\Delta = 122\text{km}$ Pg eZ Sg eN	21 03 03.1 03 19.1	
KSP	$\Delta = 213\text{km}$ Pg eZ (Sn) eE	21 03 18.2 03 42.0	

MAY 13			
$\varphi = 50.26^\circ\text{N}$, $\lambda = 18.82^\circ\text{E}$ $H = 03:53:03.4$, $M = 2.3$			
RAC	$\Delta = 50\text{km}$ Pg eZ Sg eNE	03 53 13.1 53 18.4	
OJC	$\Delta = 69\text{km}$ Pg eZ Sg eN	03 53 16.3 53 25.1	
NIE	$\Delta = 142\text{km}$ Pg eZ Sg eE	03 53 27.8 53 45.5	
KSP	$\Delta = 190\text{km}$ Pn eZ Pg eE Sg eZ	03 53 33.2 53 35.8 53 59.1	

MAY 13			
GIG: $\varphi = 50.068^\circ\text{N}$, $\lambda = 18.425^\circ\text{E}$ $H = 04:56:40.4$, $M = 2.2$			
RAC	$\Delta = 17\text{km}$ Pg eZ Sg eNE	04 56 44.2 56 47.3	
OJC	$\Delta = 99\text{km}$ Pg eZ Sg eN	04 56 57.4 57 10.4	
NIE	$\Delta = 154\text{km}$ Pg eZ Sg eE	04 57 07.3 57 27.1	
MAY 13			
GIG: $\varphi = 50.044^\circ\text{N}$, $\lambda = 18.466^\circ\text{E}$ $H = 10:47:00.2$, $M = 2.2$			
RAC	$\Delta = 20\text{km}$ Pg eZ Sg eNE	10 47 04.9 47 07.8	
OJC	$\Delta = 97\text{km}$ Pg eZ Sg eE	10 47 17.0 47 29.3	
NIE	$\Delta = 150\text{km}$ Pg eZ (Sg) eE	10 47 26.7 47 46.4	
KSP	$\Delta = 178\text{km}$ Pg eZ Sg Z	10 47 29.2 47 51.1	

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MAY 13

GIG: $\varphi = 50.104^{\circ}\text{N}$, $\lambda = 19.171^{\circ}\text{E}$
H = 11:12:29.6, M = 2.6

OJC $\Delta = 46\text{km}$
Pg eZ 11 12 37.3
Sg iN 12 43.5

NIE $\Delta = 112\text{km}$
Pg eZ 11 12 48.5
Sg eN 13 04.3

KSP $\Delta = 220\text{km}$
Pg eZ 11 13 07.3
Sn eN 13 31.2

MAY 13

GIG: $\varphi = 50.075^{\circ}\text{N}$, $\lambda = 19.128^{\circ}\text{E}$
H = 15:48:55.9, M = 2.4

OJC $\Delta = 50\text{km}$
Pg eZ 15 49 04.2
Sg eN 49 10.7

NIE $\Delta = 113\text{km}$
Pg eZ 15 49 14.7
(Sg) eE 49 31.2

KSP $\Delta = 218\text{km}$
Pn eE 15 49 30.1
Pg eE 49 33.1
Sg eZ 49 58.1

MAY 14

GIG: $\varphi = 50.239^{\circ}\text{N}$, $\lambda = 18.980^{\circ}\text{E}$
H = 00:46:26.2, M = 2.1

OJC $\Delta = 58\text{km}$
Pg eZ 00 46 36.8
Sg eE 46 44.3

NIE $\Delta = 132\text{km}$
Pg eZ 00 46 49.3
Sg eE 47 06.1

KSP $\Delta = 202\text{km}$
Pg eZ 00 46 59.8
Sg eZ 47 23.9

MAY 14

GIG: $\varphi = 50.068^{\circ}\text{N}$, $\lambda = 18.425^{\circ}\text{E}$
H = 01:35:11.1, M = 2.2

RAC $\Delta = 16\text{km}$
Pg eZ 01 35 14.8
Sg eNE 35 17.8

OJC $\Delta = 99\text{km}$
Pg eZ 01 35 27.9
Sg eN 35 40.8

NIE $\Delta = 154\text{km}$
Pg eZ 01 35 37.8
Sg eNE 35 57.9

KSP $\Delta = 174\text{km}$
Pg eZ 01 35 41.1
Sg eN 36 00.3

MAY 14

$\varphi = 50.09^{\circ}\text{N}$, $\lambda = 18.42^{\circ}\text{E}$
H = 04:40:51.4, M = 2.1

RAC $\Delta = 16\text{km}$
Pg eZ 04 40 55.1
Sg eNE 40 58.0

OJC $\Delta = 99\text{km}$
Pg eZ 04 41 08.2
Sg eE 41 21.1

NIE $\Delta = 156\text{km}$
Pg eZ 04 41 17.9
Sg eZ 41 38.1

MAY 14

GIG: $\varphi = 50.039^{\circ}\text{N}$, $\lambda = 18.464^{\circ}\text{E}$
H = 05:00:16.9, M = 2.4

RAC $\Delta = 20\text{km}$
Pg eZ 05 00 21.5
Sg eNE 00 24.5

OJC $\Delta = 98\text{km}$
Pg eZ 05 00 33.8
Sg eN 00 45.8

NIE $\Delta = 150\text{km}$
Pg Z 05 00 43.1 C
Sg eE 01 02.8

KSP $\Delta = 178\text{km}$
Pg eZ 05 00 45.8
Sn eE 01 06.7
Sg eN 01 08.6

MAY 14

GIG: $\varphi = 50.041^{\circ}\text{N}$, $\lambda = 18.466^{\circ}\text{E}$
H = 19:09:56.9, M = 2.4

RAC $\Delta = 20\text{km}$
Pg iZ 19 10 01.5 C
Sg eNE 10 05.1

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OJC	$\Delta = 97\text{km}$ Pg eZ Sg eE	19 10 13.6 10 26.1
NIE	$\Delta = 150\text{km}$ Pg eZ Sg eN	19 10 22.5 10 41.8
KSP	$\Delta = 178\text{km}$ Pg eZ Sn eE	19 10 25.7 10 46.5
<u>MAY 15</u>		
GIG:	$\varphi = 50.276^\circ\text{N}$, $\lambda = 18.889^\circ\text{E}$ $H = 00:33:30.6$, $M = 2.4$	
RAC	$\Delta = 53\text{km}$ Pg eZ Sg eNE	00 33 40.8 33 47.0
OJC	$\Delta = 65\text{km}$ Pg eZ Sg eNE	00 33 42.2 33 50.6
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eN	00 33 54.9 34 12.4
KSP	$\Delta = 194\text{km}$ Pg eZ Sg eN	00 34 03.3 34 26.0
<u>MAY 16</u>		
GIG:	$\varphi = 50.259^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$ $H = 15:47:38.5$, $M = 2.6$	
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eE	15 47 50.3 47 58.9
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eN	15 48 02.5 48 20.4
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	15 48 10.8 48 33.6
<u>MAY 16</u>		
GIG:	$\varphi = 50.075^\circ\text{N}$, $\lambda = 19.125^\circ\text{E}$ $H = 19:35:47.9$, $M = 2.3$	
OJC	$\Delta = 51\text{km}$ Pg eZ Sg eN	19 35 57.2 36 03.7

NIE	$\Delta = 113\text{km}$ Pg eZ	19 36 07.7
KSP	$\Delta = 218\text{km}$ Pg eE Sg eZ	19 36 24.7 36 50.7
<u>MAY 17</u>		
$\varphi = 50.19^\circ\text{N}$, $\lambda = 19.25^\circ\text{E}$ $H = 02:32:14.5$, $M = 2.3$		
OJC	$\Delta = 39\text{km}$ Pg eZ Sg eN	02 32 21.8 32 26.6
NIE	$\Delta = 115\text{km}$ Pg eZ Sg eN	02 32 34.5 32 49.9
KSP	$\Delta = 222\text{km}$ Pg eN Sg eN	02 32 51.3 33 19.4
<u>MAY 17</u>		
GIG:	$\varphi = 50.078^\circ\text{N}$, $\lambda = 19.124^\circ\text{E}$ $H = 02:41:40.5$, $M = 2.2$	
OJC	$\Delta = 50\text{km}$ Pg eZ Sg eN	02 41 49.0 41 55.7
NIE	$\Delta = 113\text{km}$ Pg eZ (Sg) eE	02 41 59.5 42 15.5
KSP	$\Delta = 218\text{km}$ Pg eZ Sg eE	02 42 16.9 42 42.6
<u>MAY 17</u>		
GIG:	$\varphi = 50.068^\circ\text{N}$, $\lambda = 18.423^\circ\text{E}$ $H = 05:55:22.7$, $M = 2.1$	
RAC	$\Delta = 17\text{km}$ Pg eZ Sg eNE	05 55 25.8 55 28.8
OJC	$\Delta = 99\text{km}$ Pg eZ Sg eE	05 55 39.1 55 52.9
NIE	$\Delta = 154\text{km}$ Pg eZ (Sg) eE	05 55 48.6 56 09.0
KSP	$\Delta = 174\text{km}$ Pg eN Sn eN (Sg) eN	05 55 52.8 56 11.2 56 14.3

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MAY 17

GIG: $\varphi = 50.215^{\circ}\text{N}$, $\lambda = 19.064^{\circ}\text{E}$
H = 17:40:10.4, M = 2.4

OJC $\Delta = 52\text{km}$
Pg eZ 17 40 19.3
Sg eN 40 26.3

NIE $\Delta = 127\text{km}$
Pg eZ 17 40 32.3
Sg eN 40 48.4

KSP $\Delta = 208\text{km}$
Pg eZ 17 40 44.3
Sg eZ 41 09.6

MAY 18

GIG: $\varphi = 50.068^{\circ}\text{N}$, $\lambda = 18.460^{\circ}\text{E}$
H = 05:38:53.7, M = 2.5

RAC $\Delta = 19\text{km}$
Pg iZ 05 38 58.0 D
Sg eNE 39 01.1

OJC $\Delta = 97\text{km}$
Pg eZ 05 39 10.2
Sg eE 39 22.1

NIE $\Delta = 152\text{km}$
Pg eZ 05 39 20.1
Sg eN 39 39.0

KSP $\Delta = 176\text{km}$
Pn eZ 05 39 21.7
Pg eZ 39 24.6
Sg eE 39 44.1

MAY 18

GIG: $\varphi = 50.164^{\circ}\text{N}$, $\lambda = 19.309^{\circ}\text{E}$
H = 12:30:08.8, M = 2.2

OJC $\Delta = 36\text{km}$
Pg iZ 12 30 14.8 C
Sg eN 30 19.4

NIE $\Delta = 109\text{km}$
Pg eZ 12 30 27.5

KSP $\Delta = 227\text{km}$
Pg eN 12 30 47.0
Sn eE 31 12.4

MAY 18

GIG: $\varphi = 50.068^{\circ}\text{N}$, $\lambda = 18.425^{\circ}\text{E}$
H = 17:06:58.3, M = 2.4

RAC $\Delta = 17\text{km}$
Pg eZ 17 07 01.9
Sg eNE 07 05.0

OJC $\Delta = 99\text{km}$
Pg eZ 17 07 15.3
Sg eN 07 28.1

NIE $\Delta = 154\text{km}$
Pg eZ 17 07 24.0
Sg eN 07 44.3

MAY 18

GIG: $\varphi = 50.236^{\circ}\text{N}$, $\lambda = 19.040^{\circ}\text{E}$
H = 20:16:14.7, M = 2.1

OJC $\Delta = 54\text{km}$
Pg eZ 20 16 24.5
Sg eN 16 31.6

NIE $\Delta = 130\text{km}$
Pg eZ 20 16 37.6
Sg eE 16 54.3

KSP $\Delta = 206\text{km}$
Pg eZ 20 16 48.1
Sg eZ 17 12.8

MAY 18

GIG: $\varphi = 50.208^{\circ}\text{N}$, $\lambda = 19.061^{\circ}\text{E}$
H = 21:13:21.8, M = 2.3

OJC $\Delta = 53\text{km}$
Pg eZ 21 13 31.6
Sg eE 13 38.1

NIE $\Delta = 126\text{km}$
Pg eZ 21 13 43.7
Sg eN 13 59.8

KSP $\Delta = 208\text{km}$
(Pn) eZ 21 13 53.5
Pg eZ 13 56.5
Sg eZ 14 21.1

MAY 18

$\varphi = 50.06^{\circ}\text{N}$, $\lambda = 18.45^{\circ}\text{E}$
H = 22:36:28.9, M = 2.0

RAC $\Delta = 19\text{km}$
Pg eZ 22 36 33.0
Sg eNE 36 36.6

OJC $\Delta = 98\text{km}$
Pg eZ 22 36 45.7
Sg eN 36 58.5

NIE $\Delta = 152\text{km}$
Pg eZ 22 36 54.8
Sg eE 37 14.8

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MAY 19

$\varphi = 50.07^\circ\text{N}$, $\lambda = 18.47^\circ\text{E}$
H = 00:00:15.2, M = 2.1

RAC $\Delta = 20\text{km}$
 Pg eZ 00 00 19.5
 Sg eNE 00 23.4

OJC $\Delta = 96\text{km}$
 Pg eZ 00 00 31.6
 Sg eE 00 44.0

NIE $\Delta = 151\text{km}$
 Pg eZ 00 00 41.3
 Sg eE 01 00.2

KSP $\Delta = 177\text{km}$
 Pn eZ 00 00 42.9
 Sg eN 01 05.6

MAY 20

$\varphi = 50.28^\circ\text{N}$, $\lambda = 18.86^\circ\text{E}$
H = 01:16:19.7, M = 2.0

OJC $\Delta = 67\text{km}$
 Pg eZ 01 16 31.8
 Sg eN 16 40.1

NIE $\Delta = 141\text{km}$
 Pg eZ 01 16 43.9
 Sg eE 17 02.1

KSP $\Delta = 192\text{km}$
 Pg eZ 01 16 52.0
 Sg eZ 17 15.2

MAY 20

GIG: $\varphi = 49.961^\circ\text{N}$, $\lambda = 18.562^\circ\text{E}$
H = 17:34:25.9, M = 2.2

OJC $\Delta = 93\text{km}$
 Pg eZ 17 34 41.6
 Sg eN 34 53.1

NIE $\Delta = 140\text{km}$
 Pg eZ 17 34 50.4
 Sg eN 35 08.6

KSP $\Delta = 188\text{km}$
 Pg eZ 17 34 57.1
 Sg eE 35 19.4

MAY 20

GIG: $\varphi = 50.070^\circ\text{N}$, $\lambda = 18.462^\circ\text{E}$
H = 18:03:54.4, M = 2.4

RAC $\Delta = 19\text{km}$
 Pg iZ 18 03 58.8 D
 Sg eNE 04 02.0

OJC $\Delta = 97\text{km}$
 Pg eZ 18 04 11.0
 Sg eE 04 22.9

NIE $\Delta = 152\text{km}$
 Pg eZ 18 04 21.1
 Sg eE 04 40.4

KSP $\Delta = 176\text{km}$
 Pg eZ 18 04 22.8
 Sg eN 04 44.4

MAY 20

GIG: $\varphi = 50.066^\circ\text{N}$, $\lambda = 18.464^\circ\text{E}$
H = 21:06:46.1, M = 2.3

RAC $\Delta = 20\text{km}$
 Pg eZ 21 06 50.4
 Sg eNE 06 53.9

OJC $\Delta = 97\text{km}$
 Pg eZ 21 07 02.7
 Sg eN 07 14.6

NIE $\Delta = 151\text{km}$
 Pg eZ 21 07 12.0
 Sg eE 07 31.3

KSP $\Delta = 176\text{km}$
 Pg eZ 21 07 14.9
 Sg eN 07 36.4

MAY 21

GIG: $\varphi = 50.043^\circ\text{N}$, $\lambda = 18.462^\circ\text{E}$
H = 05:12:14.2, M = 2.1

RAC $\Delta = 20\text{km}$
 Pg eZ 05 12 18.3
 Sg eNE 12 21.9

OJC $\Delta = 98\text{km}$
 Pg eZ 05 12 30.6
 Sg eN 12 44.1

NIE $\Delta = 150\text{km}$
 Pg eZ 05 12 40.2
 Sg eE 12 59.7

MAY 21

GIG: $\varphi = 50.068^\circ\text{N}$, $\lambda = 18.426^\circ\text{E}$
H = 06:54:19.9, M = 2.1

RAC $\Delta = 16\text{km}$
 Pg eZ 06 54 23.8
 Sg eNE 54 27.0

OJC $\Delta = 99\text{km}$
 Pg eZ 06 54 36.9
 Sg eN 54 49.7

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NIE	$\Delta = 154\text{km}$		
Pg	eZ	06 54	46.8
Sg	eE	55	06.6
<u>MAY 21</u>			
	$\varphi = 50.29^\circ\text{N}, \lambda = 18.81^\circ\text{E}$		
	$H = 17:48:07.0, M = 2.0$		
OJC	$\Delta = 70\text{km}$		
Pg	eZ	17 48	19.3
Sg	eE	48	28.6
NIE	$\Delta = 145\text{km}$		
Pg	eZ	17 48	32.2
Sg	eE	48	50.4
KSP	$\Delta = 188\text{km}$		
Pg	eE	17 48	38.6
Sg	eN	49	01.3
<u>MAY 23</u>			
GIG:	$\varphi = 50.070^\circ\text{N}, \lambda = 18.462^\circ\text{E}$		
	$H = 05:17:47.0, M = 2.2$		
RAC	$\Delta = 19\text{km}$		
Pg	eZ	05 17	51.0
Sg	eNE	17	54.2
OJC	$\Delta = 97\text{km}$		
Pg	eZ	05 18	03.8
Sg	eN	18	16.5
NIE	$\Delta = 152\text{km}$		
Pg	eZ	05 18	12.8
Sg	eE	18	32.6
<u>MAY 23</u>			
GIG:	$\varphi = 50.075^\circ\text{N}, \lambda = 19.128^\circ\text{E}$		
	$H = 08:51:48.7, M = 2.4$		
OJC	$\Delta = 50\text{km}$		
Pg	eZ	08 51	57.7
Sg	eN	52	04.2
NIE	$\Delta = 113\text{km}$		
Pg	eZ	08 52	08.1
(Sg)	eE	52	24.2
KSP	$\Delta = 218\text{km}$		
Pg	eZ	08 52	25.1
Sg	eZ	52	51.4
<u>MAY 23</u>			
GIG:	$\varphi = 50.172^\circ\text{N}, \lambda = 19.298^\circ\text{E}$		
	$H = 14:02:37.4, M = 2.3$		
OJC	$\Delta = 36\text{km}$		
Pg	eZ	14 02	43.8
Sg	eN	02	48.5

NIE	$\Delta = 111\text{km}$		
Pg	eZ	14 02	56.4
Sg	eE	03	11.5
KSP	$\Delta = 226\text{km}$		
Pg	eZ	14 03	14.8
Sg	eZ	03	40.8
<u>MAY 23</u>			
	$\varphi = 50.24^\circ\text{N}, \lambda = 19.09^\circ\text{E}$		
	$H = 15:16:48.0, M = 2.3$		
OJC	$\Delta = 51\text{km}$		
Pg	eZ	15 16	56.9
Sg	eE	17	04.4
NIE	$\Delta = 127\text{km}$		
Pg	eZ	15 17	09.6
Sg	eE	17	26.3
KSP	$\Delta = 209\text{km}$		
Pg	eE	15 17	22.0
Sg	eN	17	47.9
<u>MAY 24</u>			
GIG:	$\varphi = 50.244^\circ\text{N}, \lambda = 18.986^\circ\text{E}$		
	$H = 03:04:00.1, M = 2.2$		
OJC	$\Delta = 58\text{km}$		
Pg	eZ	03 04	10.1
Sg	eN	04	18.5
NIE	$\Delta = 133\text{km}$		
Pg	eZ	03 04	22.4
Sg	eN	04	40.2
KSP	$\Delta = 202\text{km}$		
Pg	eZ	03 04	34.2
Sg	eE	04	57.8
<u>MAY 24</u>			
GIG:	$\varphi = 50.259^\circ\text{N}, \lambda = 18.884^\circ\text{E}$		
	$H = 03:50:14.6, M = 2.4$		
OJC	$\Delta = 65\text{km}$		
Pg	eZ	03 50	26.0
Sg	eE	50	34.5
NIE	$\Delta = 139\text{km}$		
Pg	eZ	03 50	38.2
Sg	eN	50	55.7
KSP	$\Delta = 194\text{km}$		
Pg	eZ	03 50	47.1
Sg	eN	51	09.9

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MAY 24

GIG: $\varphi = 50.260^{\circ}\text{N}$, $\lambda = 18.859^{\circ}\text{E}$
H = 16:11:25.1, M = 2.4

OJC $\Delta = 67\text{km}$
Pg eZ 16 11 36.8
Sg eE 11 45.5

NIE $\Delta = 140\text{km}$
Pg eZ 16 11 49.3
Sg eN 12 06.7

KSP $\Delta = 193\text{km}$
Pg eZ 16 11 57.5
Sg eN 12 19.9

MAY 24

GIG: $\varphi = 50.103^{\circ}\text{N}$, $\lambda = 19.172^{\circ}\text{E}$
H = 21:13:39.7, M = 2.4

OJC $\Delta = 46\text{km}$
Pg eZ 21 13 47.6
Sg eN 13 53.7

NIE $\Delta = 112\text{km}$
Pg eZ 21 13 58.8
(Sg) eE 14 14.8

KSP $\Delta = 220\text{km}$
Pg eZ 21 14 17.5
Sn eN 14 41.4
Sg eN 14 43.3

MAY 25

GIG: $\varphi = 50.065^{\circ}\text{N}$, $\lambda = 18.422^{\circ}\text{E}$
H = 10:44:58.9, M = 2.2

RAC $\Delta = 17\text{km}$
Pg eZ 10 45 02.7
Sg eNE 45 05.7

OJC $\Delta = 100\text{km}$
Pg eZ 10 45 15.8
Sg eE 45 28.8

KSP $\Delta = 174\text{km}$
Pg eZ 10 45 28.8
Sg eE 45 49.0

MAY 25

GIG: $\varphi = 50.205^{\circ}\text{N}$, $\lambda = 19.070^{\circ}\text{E}$
H = 13:29:00.6, M = 2.3

OJC $\Delta = 52\text{km}$
Pg eZ 13 29 09.7
Sg eN 29 16.9

NIE $\Delta = 125\text{km}$
Pg eZ 13 29 22.4
Sg eE 29 38.7

KSP $\Delta = 209\text{km}$
Pg eE 13 29 35.2
Sg eN 29 59.5

MAY 25

GIG: $\varphi = 50.09^{\circ}\text{N}$, $\lambda = 18.44^{\circ}\text{E}$
H = 14:03:17.0, M = 2.2

RAC $\Delta = 18\text{km}$
Pg eZ 14 03 20.8
Sg eNE 03 24.5

OJC $\Delta = 98\text{km}$
Pg eZ 14 03 33.4
Sg eE 03 46.5

NIE $\Delta = 154\text{km}$
Pg eZ 14 03 42.8
Sg eE 04 02.3

MAY 26

GIG: $\varphi = 50.212^{\circ}\text{N}$, $\lambda = 19.140^{\circ}\text{E}$
H = 00:08:48.9, M = 2.3

OJC $\Delta = 47\text{km}$
Pg eZ 00 08 56.9
Sg eN 09 03.1

NIE $\Delta = 122\text{km}$
Pg eZ 00 09 09.3
Sg eN 09 26.1

KSP $\Delta = 214\text{km}$
Pg eZ 00 09 24.6
Sn eZ 09 48.0

MAY 26

GIG: $\varphi = 50.366^{\circ}\text{N}$, $\lambda = 18.908^{\circ}\text{E}$
H = 00:38:13.5, M = 2.4

OJC $\Delta = 65\text{km}$
Pg eZ 00 38 25.0
Sg eE 38 33.3

NIE $\Delta = 146\text{km}$
Pg eZ 00 38 38.1
Sg eN 38 55.9

KWP $\Delta = 284\text{km}$
Pg eZ 00 39 02.2

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MAY 27

GIG: $\varphi = 50.043^{\circ}\text{N}$, $\lambda = 18.465^{\circ}\text{E}$
H = 22:05:43.2, M = 2.1

RAC $\Delta = 20\text{km}$
Pg eZ 22 05 47.2
Sg eNE 05 51.4

OJC $\Delta = 98\text{km}$
Pg eZ 22 05 59.4
Sg eN 06 13.0

NIE $\Delta = 150\text{km}$
Pg eZ 22 06 08.4
Sg eE 06 27.9

MAY 28

GIG: $\varphi = 50.243^{\circ}\text{N}$, $\lambda = 18.924^{\circ}\text{E}$
H = 04:37:18.7, M = 2.1

OJC $\Delta = 62\text{km}$
Pg eZ 04 37 29.7
Sg eE 37 37.7

NIE $\Delta = 136\text{km}$
Pg eZ 04 37 42.5
Sg eE 37 59.7

KSP $\Delta = 198\text{km}$
Pg eZ 04 37 51.5
Sg eZ 38 15.6

MAY 28

$\varphi = 50.24^{\circ}\text{N}$, $\lambda = 19.05^{\circ}\text{E}$
H = 10:13:07.1, M = 2.2

OJC $\Delta = 54\text{km}$
Pg eZ 10 13 16.7
Sg eE 13 23.4

NIE $\Delta = 129\text{km}$
Pg eZ 10 13 29.5
Sg eE 13 45.1

KSP $\Delta = 206\text{km}$
Pg eZ 10 13 41.3
Sg eN 14 07.0

MAY 28

GIG: $\varphi = 50.079^{\circ}\text{N}$, $\lambda = 19.129^{\circ}\text{E}$
H = 17:43:16.2, M = 2.4

OJC $\Delta = 50\text{km}$
Pg eZ 17 43 24.6
Sg eE 43 31.0

NIE $\Delta = 113\text{km}$
Pg eZ 17 43 34.9
(Sg) eE 43 51.0

KSP $\Delta = 218\text{km}$
Pg eE 17 43 51.9
Sg eN 44 17.9

MAY 30

GIG: $\varphi = 50.205^{\circ}\text{N}$, $\lambda = 19.069^{\circ}\text{E}$
H = 14:57:20.3, M = 2.2

OJC $\Delta = 52\text{km}$
Pg eZ 14 57 29.4
Sg eNE 57 36.7

NIE $\Delta = 125\text{km}$
Pg eZ 14 57 42.2
Sg eN 57 58.0

KSP $\Delta = 209\text{km}$
Pg eZ 14 57 54.6
Sg eE 58 19.5

MAY 30

GIG: $\varphi = 49.960^{\circ}\text{N}$, $\lambda = 18.561^{\circ}\text{E}$
H = 19:52:11.0, M = 2.2

RAC $\Delta = 29\text{km}$
Pg eZ 19 52 17.7
Sg eNE 52 22.2

OJC $\Delta = 93\text{km}$
Pg eZ 19 52 27.5
Sg eN 52 40.2

NIE $\Delta = 140\text{km}$
Pg eZ 19 52 36.2
Sg eN 52 54.5

KSP $\Delta = 188\text{km}$
Pn eZ 19 52 40.9
Sg eN 53 04.5

MAY 31

GIG: $\varphi = 50.259^{\circ}\text{N}$, $\lambda = 18.860^{\circ}\text{E}$
H = 10:52:06.5, M = 2.6

OJC $\Delta = 66\text{km}$
Pg eZ 10 52 18.4
Sg eEN 52 26.9

NIE $\Delta = 140\text{km}$
Pg eZ 10 52 31.6
Sg eN 52 48.5

MAY 31

GIG: $\varphi = 50.104^{\circ}\text{N}$, $\lambda = 19.171^{\circ}\text{E}$
H = 23:40:59.9, M = 2.4

OJC $\Delta = 46\text{km}$
Pg eZ 23 41 07.8
Sg eN 41 14.0

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NIE	$\Delta = 111\text{km}$			
	Pg eZ	23	41	18.9
	Sg eE		41	34.2
<u>JUN 1</u>				
	$\varphi = 50.25^\circ\text{N}, \lambda = 18.77^\circ\text{E}$			
	$H = 00:31:20.5, M = 2.1$			
RAC	$\Delta = 45\text{km}, M = 1.9$			
	Pg eZ	00	31	29.3
	Sg eNE		31	34.5
OJC	$\Delta = 73\text{km}$			
	Pg eZ	00	31	33.8
	Sg eN		31	42.4
NIE	$\Delta = 144\text{km}$			
	Pg eZ	00	31	45.0
	Sg eE		32	03.6
KSP	$\Delta = 187\text{km}$			
	Pg eZ	00	31	51.3
	Sg eN		32	15.0
<u>JUN 1</u>				
GIG:	$\varphi = 50.238^\circ\text{N}, \lambda = 19.071^\circ\text{E}$			
	$H = 19:14:36.9, M = 2.3$			
OJC	$\Delta = 52\text{km}$			
	Pg eZ	19	14	46.0
	Sg eE		14	53.0
NIE	$\Delta = 127\text{km}$			
	Pg eZ	19	14	59.1
	Sg eN		15	15.3
KSP	$\Delta = 208\text{km}$			
	Pg eZ	19	15	11.6
	Sg eE		15	36.2
<u>JUN 3</u>				
GIG:	$\varphi = 50.259^\circ\text{N}, \lambda = 18.860^\circ\text{E}$			
	$H = 00:34:47.5, M = 2.3$			
RAC	$\Delta = 52\text{km}$			
	Pg eZ	00	34	57.1
	Sg eN		35	04.5
OJC	$\Delta = 67\text{km}$			
	Pg iZ	00	34	59.5 C
	Sg eN		35	07.1
NIE	$\Delta = 140\text{km}$			
	Pg eZ	00	35	11.5
	Sg eN		35	29.5
KSP	$\Delta = 193\text{km}$			
	Pg iZ	00	35	20.0
	Sg eN		35	43.0

<u>JUN 3</u>				
GIG:	$\varphi = 50.241^\circ\text{N}, \lambda = 18.925^\circ\text{E}$			
	$H = 14:06:08.1, M = 2.3$			
OJC	$\Delta = 62\text{km}$			
	Pg eZ	14	06	18.9
	Sg eN		06	26.7
NIE	$\Delta = 136\text{km}$			
	Pg eZ	14	06	32.1
	Sg eE		06	48.5
KSP	$\Delta = 198\text{km}$			
	Pg eZ	14	06	41.5
	Sg eN		07	04.2
<u>JUN 3</u>				
GIG:	$\varphi = 50.210^\circ\text{N}, \lambda = 19.062^\circ\text{E}$			
	$H = 20:50:28.8, M = 2.3$			
OJC	$\Delta = 52\text{km}$			
	Pg eZ	20	50	37.7
	Sg eE		50	44.7
NIE	$\Delta = 126\text{km}$			
	Pg eZ	20	50	50.3
	Sg eN		51	06.3
KSP	$\Delta = 209\text{km}$			
	Pg eZ	20	51	04.2
	Sg eN		51	30.0
<u>JUN 4</u>				
GIG:	$\varphi = 50.218^\circ\text{N}, \lambda = 19.067^\circ\text{E}$			
	$H = 22:52:57.7, M = 2.2$			
OJC	$\Delta = 52\text{km}$			
	Pg eZ	22	53	07.0
	Sg iN		53	14.2
RAC	$\Delta = 64\text{km}$			
	Pg eZ	22	53	08.6
	Sg eNE		53	17.0
NIE	$\Delta = 126\text{km}$			
	Pg eZ	22	53	19.9
	Sg eN		53	35.9
KSP	$\Delta = 208\text{km}$			
	Pg eE	22	53	32.2
	Sg eE		53	56.5
<u>JUN 5</u>				
GIG:	$\varphi = 50.363^\circ\text{N}, \lambda = 18.873^\circ\text{E}$			
	$H = 12:06:04.4, M = 2.6$			
RAC	$\Delta = 58\text{km}$			
	Pg eZ	12	06	15.3
	Sg eNE		06	23.1

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OJC	$\Delta = 68\text{km}$ Pg eZ Sg eN	12 06 16.3 06 25.9
NIE	$\Delta = 148\text{km}$ Pg eZ Sg eE	12 06 29.4 06 47.7
KSP	$\Delta = 190\text{km}$ Pg eZ Sg eN	12 06 36.2 06 59.5
<u>JUN 6</u> GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$ H = 13:23:39.8, M = 2.5		
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eE	13 23 51.5 24 00.1
NIE	$\Delta = 141\text{km}$ Pg eZ Sg eN	13 24 03.9 24 21.3
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	13 24 12.0 24 34.6
<u>JUN 6</u> GIG: $\varphi = 50.103^\circ\text{N}$, $\lambda = 19.170^\circ\text{E}$ H = 15:53:45.8, M = 2.2		
OJC	$\Delta = 47\text{km}$ Pg eZ Sg eN	15 53 54.2 54 00.4
NIE	$\Delta = 112\text{km}$ Pg eZ (Sg) eE	15 54 05.7 54 20.8
KSP	$\Delta = 220\text{km}$ Pg eE Sg eN	15 54 22.2 54 47.9
<u>JUN 6</u> GIG: $\varphi = 50.078^\circ\text{N}$, $\lambda = 19.127^\circ\text{E}$ H = 19:04:51.9, M = 2.4		
OJC	$\Delta = 50\text{km}$ Pg eZ Sg eN	19 05 00.6 05 07.0
NIE	$\Delta = 113\text{km}$ Pg eZ (Sg) eE	19 05 10.9 05 26.9
KSP	$\Delta = 218\text{km}$ Pg eZ Sg eZ	19 05 27.7 05 54.4

<u>JUN 7</u> GIG: $\varphi = 50.044^\circ\text{N}$, $\lambda = 18.466^\circ\text{E}$ H = 03:30:12.5, M = 2.6		
RAC	$\Delta = 20\text{km}$ Pg eZ Sg eNE	03 30 16.9 30 20.4
OJC	$\Delta = 97\text{km}$ Pg eZ Sg eE	03 30 29.0 30 41.6
NIE	$\Delta = 150\text{km}$ Pg eZ (Sg) eN	03 30 37.7 30 58.8
KSP	$\Delta = 178\text{km}$ Pg eZ Sg eN	03 30 41.1 31 03.5
<u>JUN 8</u> GIG: $\varphi = 50.24^\circ\text{N}$, $\lambda = 18.90^\circ\text{E}$ H = 06:09:46.6, M = 2.3		
OJC	$\Delta = 64\text{km}$ Pg eZ Sg eN	06 09 58.1 10 07.0
NIE	$\Delta = 137\text{km}$ Pg eZ Sg eN	06 10 09.9 10 28.0
KSP	$\Delta = 196\text{km}$ Pg eE Sg eN	06 10 18.8 10 42.0
<u>JUN 8</u> GIG: $\varphi = 50.244^\circ\text{N}$, $\lambda = 18.926^\circ\text{E}$ H = 10:33:27.8, M = 2.2		
OJC	$\Delta = 62\text{km}$ Pg eZ Sg eE	10 33 39.0 33 47.1
NIE	$\Delta = 136\text{km}$ Pg eZ Sg eE	10 33 52.5 34 08.6
KSP	$\Delta = 198\text{km}$ Pg eZ Sg eE	10 34 00.7 34 24.8
<u>JUN 8</u> GIG: $\varphi = 50.238^\circ\text{N}$, $\lambda = 19.069^\circ\text{E}$ H = 13:02:49.0, M = 2.4		
OJC	$\Delta = 52\text{km}$ Pg eZ Sg eE	13 02 58.3 03 05.9

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NIE	$\Delta = 128\text{km}$			
	Pg eZ	13	03	11.0
	Sg eE		03	28.0
KSP	$\Delta = 207\text{km}$			
	Pn eE	13	03	21.2
	Pg eE		03	23.6
	Sg eZ		03	47.9
<u>JUN 8</u>				
GIG:	$\varphi = 50.104^\circ\text{N}, \lambda = 19.171^\circ\text{E}$ $H = 21:38:10.4, M = 2.4$			
OJC	$\Delta = 46\text{km}$			
	Pg eZ	21	38	18.6
	Sg eN		38	24.8
RAC	$\Delta = 70\text{km}$			
	Pg eZ	21	38	23.0
	Sg eNE		38	32.1
NIE	$\Delta = 112\text{km}$			
	Pg eZ	21	38	29.6
	Sg eE		38	45.1
KSP	$\Delta = 220\text{km}$			
	Pg eZ	21	38	47.1
	Sg eN		39	12.4
<u>JUN 8</u>				
GIG:	$\varphi = 50.171^\circ\text{N}, \lambda = 19.298^\circ\text{E}$ $H = 23:43:09.6, M = 2.2$			
OJC	$\Delta = 36\text{km}$			
	Pg eZ	23	43	15.4
	Sg eN		43	20.2
NIE	$\Delta = 111\text{km}$			
	Pg eZ	23	43	28.0
	Sg eE		43	43.2
KSP	$\Delta = 226\text{km}$			
	Pg eE	23	43	48.8
	Sn eN		44	12.1
<u>JUN 9</u>				
GIG:	$\varphi = 50.273^\circ\text{N}, \lambda = 18.889^\circ\text{E}$ $H = 15:40:10.0, M = 2.5$			
OJC	$\Delta = 64\text{km}$			
	Pg eZ	15	40	21.6
	Sg eZ		40	29.9
NIE	$\Delta = 139\text{km}$			
	Pg eZ	15	40	34.1
	Sg eE		40	52.1

KSP	$\Delta = 195\text{km}$			
	Pg eZ	15	40	42.8
	Sn eZ		41	04.0
	Sg eN		41	06.4
<u>JUN 10</u>				
GIG:	$\varphi = 50.243^\circ\text{N}, \lambda = 18.998^\circ\text{E}$ $H = 00:21:02.8, M = 2.3$			
OJC	$\Delta = 57\text{km}$			
	Pg eZ	00	21	12.9
	Sg eZE		21	20.4
NIE	$\Delta = 132\text{km}$			
	Pg eZ	00	21	25.6
	Sg eE		21	43.0
KSP	$\Delta = 203\text{km}$			
	Pg eE	00	21	36.3
	Sg eN		22	01.2
<u>JUN 10</u>				
GIG:	$\varphi = 50.045^\circ\text{N}, \lambda = 18.466^\circ\text{E}$ $H = 13:03:18.0, M = 2.7$			
RAC	$\Delta = 20\text{km}$			
	Pg iZ	13	03	22.7 D
	Sg eNE		03	26.1
OJC	$\Delta = 97\text{km}$			
	Pg eZ	13	03	34.6
	Sg eE		03	47.2
NIE	$\Delta = 150\text{km}$			
	Pg eZ	13	03	44.1
	Sg eE		04	03.9
KSP	$\Delta = 178\text{km}$			
	Pg eZ	13	03	46.6
	Sg eZ		04	08.2
<u>JUN 11</u>				
GIG:	$\varphi = 50.257^\circ\text{N}, \lambda = 18.862^\circ\text{E}$ $H = 04:40:40.5, M = 2.4$			
OJC	$\Delta = 67\text{km}$			
	Pg eZ	04	40	52.3
	Sg eN		41	00.6
NIE	$\Delta = 140\text{km}$			
	Pg eZ	04	41	05.5
	Sg eE		41	23.0
KSP	$\Delta = 193\text{km}$			
	Pg eZ	04	41	12.7
	Sg eN		41	35.3

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JUN 11

$\varphi = 50.28^{\circ}\text{N}$, $\lambda = 18.85^{\circ}\text{E}$
H = 09:14:59.2, M = 2.2

OJC $\Delta = 68\text{km}$
 Pg eZ 09 15 11.3
 Sg eN 15 19.3

NIE $\Delta = 142\text{km}$
 Pg eZ 09 15 24.0
 Sg eE 15 42.5

KSP $\Delta = 192\text{km}$
 Pg eZ 09 15 31.0
 Sg eN 15 54.5

JUN 11

$\varphi = 50.26^{\circ}\text{N}$, $\lambda = 18.86^{\circ}\text{E}$
H = 10:02:14.3, M = 2.4

OJC $\Delta = 67\text{km}$
 Pg eZ 10 02 26.2
 Sg eE 02 34.7

NIE $\Delta = 140\text{km}$
 Pg eZ 10 02 39.0
 Sg eN 02 56.0

KSP $\Delta = 193\text{km}$
 Pg eZ 10 02 46.6
 Sg eN 03 09.4

JUN 11

GIG: $\varphi = 50.040^{\circ}\text{N}$, $\lambda = 18.486^{\circ}\text{E}$
H = 10:39:00.9, M = 2.5

RAC $\Delta = 21\text{km}$
 Pg eZ 10 39 05.7
 Sg eNE 39 09.4

OJC $\Delta = 96\text{km}$
 Pg eZ 10 39 17.2
 Sg eN 39 29.9

NIE $\Delta = 149\text{km}$
 Pg eZ 10 39 27.0
 Sg eNZ 39 45.0

KSP $\Delta = 179\text{km}$
 Pg eZ 10 39 30.0
 Sg eN 39 51.1

JUN 14

GIG: $\varphi = 50.259^{\circ}\text{N}$, $\lambda = 18.862^{\circ}\text{E}$
H = 03:02:26.6, M = 2.2

OJC $\Delta = 67\text{km}$
 Pg eZ 03 02 38.4
 Sg eE 02 47.1

NIE $\Delta = 140\text{km}$
 Pg eZ 03 02 50.7
 Sg eN 03 08.9

KSP $\Delta = 193\text{km}$
 Pn eE 03 02 56.3
 Pg eE 02 58.9
 Sn eN 03 19.6
 Sg eN 03 22.6

JUN 15

GIG: $\varphi = 50.234^{\circ}\text{N}$, $\lambda = 19.072^{\circ}\text{E}$
H = 15:56:56.3, M = 2.2

OJC $\Delta = 52\text{km}$
 Pg eZ 15 57 05.3
 Sg eN 57 12.2

NIE $\Delta = 128\text{km}$
 Pg eZ 15 57 18.5
 Sg eN 57 34.6

KSP $\Delta = 208\text{km}$
 Pg E 15 57 29.9
 Sg eZ 57 55.8

JUN 15

GIG: $\varphi = 50.172^{\circ}\text{N}$, $\lambda = 19.297^{\circ}\text{E}$
H = 18:08:35.7, M = 2.4

OJC $\Delta = 36\text{km}$
 Pg eZ 18 08 42.2
 Sg eN 08 46.9

NIE $\Delta = 112\text{km}$
 Pg eZ 18 08 54.6
 Sg eN 09 09.8

KSP $\Delta = 225\text{km}$
 Pg eZ 18 09 12.6
 Sg eN 09 39.5

JUN 16

$\varphi = 50.21^{\circ}\text{N}$, $\lambda = 18.85^{\circ}\text{E}$
H = 02:52:20.1, M = 2.1

OJC $\Delta = 68\text{km}$
 Pg eZ 02 52 32.2
 Sg eE 52 40.7

NIE $\Delta = 137\text{km}$
 Pg eZ 02 52 43.9
 Sg eE 53 00.4

KSP $\Delta = 194\text{km}$
 Pg eZ 02 52 52.4
 Sg eE 53 16.3

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JUN 17

GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$
H = 07:16:47.1, M = 2.4

OJC $\Delta = 67\text{km}$
Pg eZ 07 16 58.8
Sg eE 17 07.3

NIE $\Delta = 141\text{km}$
Pg eZ 07 17 11.4
Sg eE 17 28.8

KSP $\Delta = 193\text{km}$
Pg eZ 07 17 19.1
Sg eN 17 42.0

JUN 17

$\varphi = 50.17^\circ\text{N}$, $\lambda = 19.29^\circ\text{E}$
H = 13:41:55.6, M = 2.4

OJC $\Delta = 36\text{km}$
Pg eZ 13 42 02.2
Sg eE 42 06.9

NIE $\Delta = 112\text{km}$
Pg eZ 13 42 14.6
Sg eE 42 29.8

KSP $\Delta = 225\text{km}$
Pg eE 13 42 33.3
Sg eN 42 59.8

JUN 20

GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$
H = 04:22:43.4, M = 2.3

OJC $\Delta = 67\text{km}$
Pg eZ 04 22 55.8
Sg eN 23 04.1

NIE $\Delta = 140\text{km}$
Pg eZ 04 23 07.9
Sg eN 23 24.9

KSP $\Delta = 193\text{km}$
Pg eZ 04 23 15.9
Sg eN 23 38.3

JUN 20

GIG: $\varphi = 50.220^\circ\text{N}$, $\lambda = 19.144^\circ\text{E}$
H = 16:04:05.7, M = 2.2

OJC $\Delta = 46\text{km}$
Pg iZ 16 04 13.5 D
Sg eE 04 19.9

NIE $\Delta = 123\text{km}$
Pg eZ 16 04 27.5
Sg eE 04 43.3

KSP $\Delta = 213\text{km}$
Pg eZ 16 04 40.1
Sg eN 05 06.1

JUN 20

$\varphi = 50.08^\circ\text{N}$, $\lambda = 19.14^\circ\text{E}$
H = 16:06:53.1, M = 2.3

OJC $\Delta = 50\text{km}$
Pg iZ 16 07 01.7 D
Sg eN 07 08.4

NIE $\Delta = 112\text{km}$
Pg eZ 16 07 11.8
(Sg) eN 07 28.2

KSP $\Delta = 219\text{km}$
Pg eZ 16 07 28.5
Sg eN 07 55.3

JUN 21

GIG: $\varphi = 50.353^\circ\text{N}$, $\lambda = 18.851^\circ\text{E}$
H = 02:08:26.9, M = 2.4

RAC $\Delta = 56\text{km}$
Pg eZ 02 08 36.8
Sg eNE 08 44.4

OJC $\Delta = 69\text{km}$
Pg eZ 02 08 39.7
Sg eN 08 49.2

NIE $\Delta = 148\text{km}$
Pg eZ 02 08 51.7
Sg eN 09 10.5

KSP $\Delta = 189\text{km}$
Pg eZ 02 08 57.9
Sg eN 09 21.8

JUN 22

GIG: $\varphi = 50.280^\circ\text{N}$, $\lambda = 18.836^\circ\text{E}$
H = 03:28:29.1, M = 2.4

RAC $\Delta = 51\text{km}$
Pg eZ 03 28 38.6
Sg eNE 28 44.2

OJC $\Delta = 69\text{km}$
Pg eZ 03 28 41.3
Sg eE 28 51.3

NIE $\Delta = 143\text{km}$
Pg eZ 03 28 53.3
Sg eN 29 11.4

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KSP	$\Delta = 191\text{km}$ Pg eZ Sg eN	03 29 01.2 29 24.2
<u>JUN 22</u>		
	$\varphi = 50.25^\circ\text{N}, \lambda = 18.88^\circ\text{E}$ $H = 03:50:32.9, M = 2.1$	
OJC	$\Delta = 66\text{km}$ Pg eZ Sg eN	03 50 45.1 50 53.1
NIE	$\Delta = 139\text{km}$ Pg eZ Sg eE	03 50 57.1 51 13.3
KSP	$\Delta = 194\text{km}$ Pg eZ Sg eE	03 51 05.1 51 28.9
<u>JUN 22</u>		
GIG:	$\varphi = 50.259^\circ\text{N}, \lambda = 18.895^\circ\text{E}$ $H = 07:17:57.5, M = 2.4$	
OJC	$\Delta = 64\text{km}$ Pg eZ Sg eE	07 18 08.5 18 16.6
NIE	$\Delta = 139\text{km}$ Pg eZ (Sg) eE	07 18 21.5 18 40.5
KSP	$\Delta = 195\text{km}$ Pg eZ Sg eN	07 18 30.2 18 53.4
<u>JUN 22</u>		
GIG:	$\varphi = 50.181^\circ\text{N}, \lambda = 19.311^\circ\text{E}$ $H = 09:05:40.1, M = 2.3$	
OJC	$\Delta = 35\text{km}$ Pg eZ Sg eN	09 05 46.0 05 50.8
NIE	$\Delta = 110\text{km}$ Pg eZ Sg eE	09 05 58.8 06 13.7
KSP	$\Delta = 217\text{km}$ Pg eE Sg eN	09 06 17.2 06 43.8
<u>JUN 22</u>		
GIG:	$\varphi = 50.074^\circ\text{N}, \lambda = 19.122^\circ\text{E}$ $H = 23:07:03.8, M = 2.3$	
OJC	$\Delta = 50\text{km}$ Pg eZ Sg eN	23 07 12.1 07 18.7

NIE	$\Delta = 112\text{km}$ Pg eZ Sg eE	23 07 22.6 07 38.5
<u>JUN 23</u>		
GIG:	$\varphi = 50.280^\circ\text{N}, \lambda = 18.836^\circ\text{E}$ $H = 13:50:32.8, M = 2.3$	
OJC	$\Delta = 69\text{km}$ Pg eZ Sg eE	13 50 44.4 50 54.1
NIE	$\Delta = 143\text{km}$ Pg eZ Sg eE	13 50 57.3 51 16.0
KSP	$\Delta = 184\text{km}$ Pg eZ Sg eN	13 51 04.3 51 26.7
<u>JUN 23</u>		
	$\varphi = 50.27^\circ\text{N}, \lambda = 18.87^\circ\text{E}$ $H = 23:25:05.7, M = 2.1$	
OJC	$\Delta = 66\text{km}$ Pg eZ Sg eN	23 25 17.5 25 25.9
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eEN	23 25 29.8 25 47.7
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	23 25 38.0 26 01.1
<u>JUN 24</u>		
GIG:	$\varphi = 50.171^\circ\text{N}, \lambda = 19.298^\circ\text{E}$ $H = 00:12:34.6, M = 2.4$	
OJC	$\Delta = 36\text{km}$ Pg eZ Sg eN	00 12 40.7 12 45.4
NIE	$\Delta = 111\text{km}$ Pg eZ Sg eE	00 12 53.3 13 08.5
KSP	$\Delta = 226\text{km}$ Pg eE Sg eN	00 13 11.6 13 38.8
<u>JUN 24</u>		
	$\varphi = 50.27^\circ\text{N}, \lambda = 18.87^\circ\text{E}$ $H = 00:25:07.2, M = 2.1$	
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eNE	00 25 19.1 25 27.6

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NIE	$\Delta = 140\text{km}$			
Pg	eZ	00	25	31.3
Sg	eE		25	49.4
KSP	$\Delta = 193\text{km}$			
Pg	eZ	00	25	39.4
Sg	eN		26	02.9
<u>JUN 24</u>				
GIG: $\varphi = 50.257^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$ $H = 07:17:03.7$, $M = 2.4$				
OJC	$\Delta = 67\text{km}$			
Pg	eZ	07	17	15.4
Sg	eE		17	23.9
NIE	$\Delta = 140\text{km}$			
Pg	eZ	07	17	29.0
Sg	eE		17	46.1
KSP	$\Delta = 193\text{km}$			
Pg	eZ	07	17	35.8
Sg	eN		17	59.2
<u>JUN 24</u>				
GIG: $\varphi = 50.069^\circ\text{N}$, $\lambda = 18.456^\circ\text{E}$ $H = 08:41:20.7$, $M = 2.2$				
RAC	$\Delta = 19\text{km}$			
Pg	eZ	08	41	25.1
Sg	eNE		41	28.6
OJC	$\Delta = 97\text{km}$			
Pg	eZ	08	41	37.5
Sg	eE		41	49.4
NIE	$\Delta = 152\text{km}$			
Pg	eZ	08	41	47.3
Sg	eN		42	06.5
KSP	$\Delta = 176\text{km}$			
Pg	eZ	08	41	51.5
Sn	eE		42	09.4
Sg	eE		42	11.7
<u>JUN 24</u>				
GIG: $\varphi = 50.280^\circ\text{N}$, $\lambda = 18.835^\circ\text{E}$ $H = 15:38:48.5$, $M = 2.1$				
OJC	$\Delta = 68\text{km}$			
Pg	eZ	15	39	00.7
(Sg)	eE		39	08.0
NIE	$\Delta = 143\text{km}$			
Pg	eZ	15	39	13.4
Sg	eE		39	32.5

KSP	$\Delta = 191\text{km}$			
Pg	eZ	15	39	20.5
Sg	eN		39	42.9
<u>JUN 24</u>				
GIG: $\varphi = 50.204^\circ\text{N}$, $\lambda = 19.122^\circ\text{E}$ $H = 20:25:10.1$, $M = 2.4$				
OJC	$\Delta = 49\text{km}$			
Pg	eZ	20	25	18.6
Sg	eE		25	24.7
NIE	$\Delta = 122\text{km}$			
Pg	eZ	20	25	31.0
Sg	eN		25	47.5
KSP	$\Delta = 212\text{km}$			
Pg	eZ	20	25	45.4
Sn	eN		26	10.0
<u>JUN 24</u>				
GIG: $\varphi = 50.245^\circ\text{N}$, $\lambda = 18.982^\circ\text{E}$ $H = 22:37:49.0$, $M = 2.3$				
OJC	$\Delta = 58\text{km}$			
Pg	eZ	22	37	59.6
Sg	eN		38	07.7
NIE	$\Delta = 132\text{km}$			
Pg	eZ	22	38	12.5
Sg	eE		38	28.8
KSP	$\Delta = 202\text{km}$			
Pg	eZ	22	38	23.1
Sg	eN		38	47.3
<u>JUN 27</u>				
$\varphi = 50.26^\circ\text{N}$, $\lambda = 18.89^\circ\text{E}$ $H = 01:40:58.0$, $M = 2.3$				
OJC	$\Delta = 64\text{km}$			
Pg	eZ	01	41	10.0
Sg	eN		41	18.2
NIE	$\Delta = 139\text{km}$			
Pg	eZ	01	41	22.5
Sg	eE		41	40.1
KSP	$\Delta = 195\text{km}$			
Pg	eZ	01	41	31.1
Sg	eN		41	54.1
<u>JUN 27</u>				
GIG: $\varphi = 50.258^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$ $H = 02:10:55.8$, $M = 2.2$				
OJC	$\Delta = 67\text{km}$			
Pg	eZ	02	11	08.2
Sg	eN		11	16.8

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NIE	Δ = 140km Pg eZ Sg eN	02 11 20.8 11 38.2
KSP	Δ = 193km Pg eZ Sg eN	02 11 28.7 11 51.1
JUN 27 GIG: φ = 50.241°N, λ = 18.922°E H = 05:13:02.0, M = 2.4		
OJC	Δ = 62km Pg eZ Sg eN	05 13 12.8 13 21.0
NIE	Δ = 136km Pg eZ Sg eN	05 13 25.5 13 42.2
KSP	Δ = 198km Pg eZ Sg eN	05 13 34.8 13 58.2
JUN 27 GIG: φ = 50.279°N, λ = 18.835°E H = 14:11:50.3, M = 2.3		
OJC	Δ = 69km Pg eZ Sg eE	14 12 02.8 12 12.2
NIE	Δ = 143km Pg eZ Sg eN	14 12 15.2 12 32.8
KSP	Δ = 190km Pg eZ Sg eN	14 12 22.3 12 44.9
JUN 28 GIG: φ = 50.171°N, λ = 19.298°E H = 02:13:33.3, M = 2.2		
OJC	Δ = 35km Pg eZ Sg eN	02 13 39.5 13 44.1
NIE	Δ = 111km Pg eZ Sg eN	02 13 52.0 14 07.3
KSP	Δ = 226km Pg eE Sn eN	02 14 12.4 14 37.0
JUN 28 GIG: φ = 50.100°N, λ = 19.209°E H = 12:35:39.8, M = 2.9		
OJC	Δ = 45km Pg eZ Sg iN	12 35 47.5 35 53.5
RAC	Δ = 72km Pg eZ Sg eE	12 35 52.2 36 01.6
NIE	Δ = 110km Pg eZ (Sg) eN	12 35 58.6 36 14.2
KSP	Δ = 222km Pn Z Pg eZ Sg eN	12 36 15.4 36 17.2 36 42.7
KWP	Δ = 255km Pg eZ Sg eNE	12 36 26.6 36 56.6
JUN 28 GIG: φ = 50.257°N, λ = 18.862°E H = 15:10:04.2, M = 2.2		
OJC	Δ = 67km Pg eZ Sg eE	15 10 16.0 10 24.1
NIE	Δ = 140km Pg eZ Sg eN	15 10 28.3 10 45.7
KSP	Δ = 193km Pg eE Sg eN	15 10 35.9 10 59.0
JUN 28 GIG: φ = 50.279°N, λ = 18.837°E H = 15:49:00.7, M = 2.1		
OJC	Δ = 69km Pg eZ Sg eEN	15 49 13.0 49 21.7
NIE	Δ = 143km Pg eZ Sg eN	15 49 25.6 49 43.8
KSP	Δ = 190km Pn eN Pg eZ Sg eN	15 49 31.4 49 32.8 49 55.4

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JUN 28

$\varphi = 50.32^\circ\text{N}$, $\lambda = 18.88^\circ\text{E}$
H = 18:30:46.8, M = 2.2

OJC $\Delta = 66\text{km}$
 Pg eZ 18 30 58.3
 Sg eE 31 06.9

NIE $\Delta = 144\text{km}$
 Pg eZ 18 31 11.4
 Sg eE 31 29.0

KSP $\Delta = 192\text{km}$
 Pg eZ 18 31 18.7
 Sg eN 31 41.9

JUN 28

GIG: $\varphi = 50.236^\circ\text{N}$, $\lambda = 19.040^\circ\text{E}$
H = 22:48:50.2, M = 2.2

OJC $\Delta = 54\text{km}$
 Pg eZ 22 48 59.8
 Sg eN 49 06.8

NIE $\Delta = 130\text{km}$
 Pg eZ 22 49 12.6
 Sg eN 49 29.3

KSP $\Delta = 206\text{km}$
 Pg eE 22 49 23.2
 Sg eN 49 49.0

JUN 29

GIG: $\varphi = 50.099^\circ\text{N}$, $\lambda = 19.209^\circ\text{E}$
H = 16:48:18.1, M = 2.2

OJC $\Delta = 44\text{km}$
 Pg eZ 16 48 25.9
 Sg eN 48 31.7

NIE $\Delta = 110\text{km}$
 Pg eZ 16 48 36.9
 Sg eE 48 52.3

KSP $\Delta = 222\text{km}$
 Pg eE 16 48 54.3
 Sn eN 49 19.7

JUL 1

GIG: $\varphi = 50.364^\circ\text{N}$, $\lambda = 18.911^\circ\text{E}$
H = 06:28:08.3, M = 2.3

OJC $\Delta = 65\text{km}$
 Pg eZ 06 28 19.9
 Sg eE 28 28.4

NIE $\Delta = 146\text{km}$
 Pg eZ 06 28 34.3
 Sg eE 28 51.8

KSP $\Delta = 193\text{km}$
 Pg eE 06 28 41.4
 Sg eZ 29 04.0

JUL 1

GIG: $\varphi = 50.099^\circ\text{N}$, $\lambda = 19.207^\circ\text{E}$
H = 17:19:03.2, M = 2.3

OJC $\Delta = 45\text{km}$
 Pg eZ 17 19 11.4
 Sg eN 19 17.3

NIE $\Delta = 111\text{km}$
 Pg eZ 17 19 22.7
 (Sg) eN 19 37.9

KSP $\Delta = 222\text{km}$
 Pg eZ 17 19 38.8
 Sg eN 20 05.7

JUL 1

GIG: $\varphi = 50.103^\circ\text{N}$, $\lambda = 19.170^\circ\text{E}$
H = 20:19:15.7, M = 2.2

OJC $\Delta = 46\text{km}$
 Pg eZ 20 19 23.2
 Sg eN 19 29.6

NIE $\Delta = 112\text{km}$
 Pg eZ 20 19 34.3
 Sg eN 19 49.6

KSP $\Delta = 220\text{km}$
 Pg eE 20 19 52.7
 Sn eE 20 16.7

JUL 2

GIG: $\varphi = 50.075^\circ\text{N}$, $\lambda = 19.125^\circ\text{E}$
H = 01:39:13.4, M = 2.3

OJC $\Delta = 51\text{km}$
 Pg eZ 01 39 22.4
 Sg eN 39 28.7

RAC $\Delta = 66\text{km}$
 Pg eZ 01 39 24.8
 Sg eNE 39 33.3

NIE $\Delta = 112\text{km}$
 Pg eZ 01 39 32.9

KSP $\Delta = 218\text{km}$
 Pn eZ 01 39 47.2
 Pg eZ 39 49.9
 Sg eN 40 15.0

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JUL 2

GIG: $\varphi = 50.244^\circ\text{N}$, $\lambda = 18.988^\circ\text{E}$
H = 14:09:28.3, M = 2.4

OJC $\Delta = 58\text{km}$
Pg eZ 14 09 38.4
Sg eN 09 46.5

NIE $\Delta = 133\text{km}$
Pg eZ 14 09 51.8
(Sg) eN 10 09.7

KSP $\Delta = 202\text{km}$
Pg eZ 14 10 01.9
Sn eN 10 25.4

JUL 3

GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.859^\circ\text{E}$
H = 08:22:16.5, M = 2.5

RAC $\Delta = 52\text{km}$
Pg eZ 08 22 26.3
Sg eN 22 33.3

OJC $\Delta = 67\text{km}$
Pg eZ 08 22 28.3
Sg eN 22 36.7

NIE $\Delta = 140\text{km}$
Pg eZ 08 22 40.6
Sg eN 22 58.2

KSP $\Delta = 193\text{km}$
Pg eZ 08 22 48.8
Sg eN 23 11.1

JUL 3

GIG: $\varphi = 50.275^\circ\text{N}$, $\lambda = 18.890^\circ\text{E}$
H = 11:42:17.1, M = 2.2

OJC $\Delta = 65\text{km}$
Pg eZ 11 42 28.5
Sg eN 42 36.9

NIE $\Delta = 140\text{km}$
Pg eZ 11 42 41.9
Sg eE 42 59.5

KSP $\Delta = 194\text{km}$
Pg eZ 11 42 48.6
Sg eN 43 11.8

JUL 4

GIG: $\varphi = 50.235^\circ\text{N}$, $\lambda = 18.931^\circ\text{E}$
H = 16:04:03.3, M = 2.3

OJC $\Delta = 62\text{km}$
Pg eZ 16 04 14.2
Sg eE 04 22.2

NIE $\Delta = 135\text{km}$
Pg eZ 16 04 26.7
Sg eE 04 44.1

KSP $\Delta = 198\text{km}$
Pg eZ 16 04 36.3
Sg eN 04 59.3

JUL 4

GIG: $\varphi = 50.099^\circ\text{N}$, $\lambda = 19.204^\circ\text{E}$
H = 20:59:24.7, M = 2.3

OJC $\Delta = 44\text{km}$
Pg eZ 20 59 32.3
Sg eN 59 38.2

NIE $\Delta = 110\text{km}$
Pg eZ 20 59 43.5
Sg eE 59 58.0

KSP $\Delta = 223\text{km}$
Pg eZ 21 00 02.4
Sg eN 00 27.9

JUL 4

GIG: $\varphi = 50.041^\circ\text{N}$, $\lambda = 18.465^\circ\text{E}$
H = 22:06:53.1, M = 2.2

RAC $\Delta = 20\text{km}$
Pg eZ 22 06 57.6
Sg eNE 07 01.2

OJC $\Delta = 97\text{km}$
Pg eZ 22 07 09.7
Sg eE 07 22.1

NIE $\Delta = 150\text{km}$
Pg eZ 22 07 18.7
Sg eN 07 37.8

KSP $\Delta = 178\text{km}$
Pg eZ 22 07 22.2
Sg eN 07 43.9

JUL 5

GIG: $\varphi = 50.280^\circ\text{N}$, $\lambda = 18.835^\circ\text{E}$
H = 03:32:17.2, M = 2.2

OJC $\Delta = 69\text{km}$
Pg eZ 03 32 30.1
Sg eE 32 38.0

NIE $\Delta = 142\text{km}$
Pg eZ 03 32 42.5
(Sg) eE 32 59.1

KSP $\Delta = 191\text{km}$
Pg eZ 03 32 49.5
Sg eE 33 12.8

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JUL 5

GIG: $\varphi = 50.058^\circ\text{N}$, $\lambda = 18.450^\circ\text{E}$
H = 06:11:28.7, M = 2.2

RAC $\Delta = 18\text{km}$
Pg eZ 06 11 33.1
Sg eNE 11 36.7

OJC $\Delta = 98\text{km}$
Pg eZ 06 11 45.6
Sg eE 11 57.2

NIE $\Delta = 152\text{km}$
Pg eZ 06 11 55.5
Sg eN 12 15.3

KSP $\Delta = 176\text{km}$
Pg eZ 06 11 57.3
Sg eN 12 18.5

JUL 6

GIG: $\varphi = 50.264^\circ\text{N}$, $\lambda = 18.912^\circ\text{E}$
H = 01:00:21.1, M = 2.9

RAC $\Delta = 55\text{km}$
Pg iZ 01 00 31.3 D
Sg eNE 00 38.5

OJC $\Delta = 64\text{km}$
Pg iZ 01 00 32.4 D
Sg eE 00 40.1

NIE $\Delta = 138\text{km}$
Pg eZ 01 00 44.4
Sg eE 01 02.1

KSP $\Delta = 196\text{km}$
Pn eZ 01 00 51.5
Pg iZ 00 53.9
Sg eN 01 17.2

KWP $\Delta = 280\text{km}$
Pn eZ 01 01 02.8
Pg eZ 01 11.3
Sn eNE 01 35.7
Sg eNE 01 47.4

JUL 8

GIG: $\varphi = 50.215^\circ\text{N}$, $\lambda = 18.729^\circ\text{E}$
H = 21:10:57.2, M = 3.1

RAC $\Delta = 41\text{km}$
Pg eZ 21 11 05.0
Sg eNE 11 10.6

OJC $\Delta = 76\text{km}$
Pg eZ 21 11 10.4
Sg eN 11 20.1

NIE $\Delta = 145\text{km}$
Pg eZ 21 11 21.5
Sg eE 11 39.9

KSP $\Delta = 186\text{km}$
Pn eZ 21 11 26.3
Pg iZ 11 28.3
Sn eN 11 49.2

KWP $\Delta = 292\text{km}$
Pn eZ 21 11 42.6
Pg eZ 11 49.8
Sn eNE 12 20.4
Sg eNE 12 29.1

SUW $\Delta = 520\text{km}$
Pn eZ 21 12 09.4
Pg eZ 12 26.6
Sn eNE 13 09.3
Sg eNE 13 33.8

JUL 9

GIG: $\varphi = 50.257^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$
H = 02:32:29.4, M = 2.2

RAC $\Delta = 51\text{km}$
Pg eZ 02 32 39.3
Sg eNE 32 45.4

OJC $\Delta = 67\text{km}$
Pg eZ 02 32 41.4
Sg eE 32 49.8

NIE $\Delta = 140\text{km}$
Pg eZ 02 32 53.6
Sg eE 33 11.5

KSP $\Delta = 193\text{km}$
Pg eZ 02 33 01.9
Sg eN 33 25.0

JUL 9

GIG: $\varphi = 50.206^\circ\text{N}$, $\lambda = 19.071^\circ\text{E}$
H = 04:17:11.6, M = 2.4

OJC $\Delta = 52\text{km}$
Pg eZ 04 17 20.8
Sg eN 17 27.7

RAC $\Delta = 64\text{km}$
Pg eZ 04 17 23.5
(Sg) eNE 17 30.1

NIE $\Delta = 125\text{km}$
Pg eZ 04 17 33.5
Sg eE 17 49.8

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KSP	$\Delta = 209\text{km}$		
Pn eZ		04	17 44.0
Pg eZ			17 46.2
Sg eN		18	11.0
<u>JUL 10</u>			
GIG:	$\varphi = 50.259^\circ\text{N}, \lambda = 18.860^\circ\text{E}$		
	H = 02:59:54.9, M = 2.4		
RAC	$\Delta = 52\text{km}$		
Pg eZ		03	00 04.4
Sg eNE		00	11.7
OJC	$\Delta = 67\text{km}$		
Pg eZ		03	00 06.6
Sg eE		00	15.1
NIE	$\Delta = 141\text{km}$		
Pg eZ		03	00 18.8
Sg eN		00	36.4
KSP	$\Delta = 193\text{km}$		
Pn eZ		03	00 24.6
Pg Z			00 27.0
Sg eE		00	49.8
<u>JUL 11</u>			
	$\varphi = 50.38^\circ\text{N}, \lambda = 18.84^\circ\text{E}$		
	H = 16:00:02.7, M = 2.2		
OJC	$\Delta = 71\text{km}$		
Pg eZ		16	00 15.4
Sg eE		00	23.4
NIE	$\Delta = 150\text{km}$		
Pg eZ		16	00 28.0
Sg eN		00	47.6
KSP	$\Delta = 187\text{km}$		
Pg eZ		16	00 33.3
Sg eE		00	57.0
<u>JUL 12</u>			
	$\varphi = 50.28^\circ\text{N}, \lambda = 18.84^\circ\text{E}$		
	H = 05:26:10.6, M = 2.1		
OJC	$\Delta = 69\text{km}$		
Pg eZ		05	26 23.4
Sg eN		26	31.3
NIE	$\Delta = 142\text{km}$		
Pg eZ		05	26 35.0
Sg eE		26	52.1
KSP	$\Delta = 191\text{km}$		
Pg eZ		05	26 42.9
Sg eZ		27	04.5

<u>JUL 12</u>			
GIG:	$\varphi = 50.169^\circ\text{N}, \lambda = 19.300^\circ\text{E}$		
	H = 11:42:49.0, M = 2.2		
OJC	$\Delta = 35\text{km}$		
Pg eZ		11	42 54.7
Sg eN		42	59.5
NIE	$\Delta = 111\text{km}$		
Pg eZ		11	43 08.4
Sg eN		43	23.3
KSP	$\Delta = 226\text{km}$		
Pg eE		11	43 27.2
Sn eZ		43	52.0
<u>JUL 12</u>			
GIG:	$\varphi = 50.257^\circ\text{N}, \lambda = 18.860^\circ\text{E}$		
	H = 15:37:14.5, M = 2.3		
OJC	$\Delta = 67\text{km}$		
Pg eZ		15	37 26.5
Sg eE		37	34.7
NIE	$\Delta = 141\text{km}$		
Pg eZ		15	37 38.5
Sg eN		37	56.1
KSP	$\Delta = 193\text{km}$		
Pg eZ		15	37 46.7
Sg eE		38	09.0
<u>JUL 13</u>			
GIG:	$\varphi = 50.099^\circ\text{N}, \lambda = 19.207^\circ\text{E}$		
	H = 15:16:30.6, M = 2.2		
OJC	$\Delta = 45\text{km}$		
Pg eZ		15	16 38.6
Sg eN		16	44.3
NIE	$\Delta = 110\text{km}$		
Pg eZ		15	16 49.7
Sg eE		17	04.2
KSP	$\Delta = 222\text{km}$		
Pg eEZ		15	17 06.9
Sn eEN		17	32.2
<u>JUL 14</u>			
GIG:	$\varphi = 50.368^\circ\text{N}, \lambda = 18.908^\circ\text{E}$		
	H = 13:59:31.9, M = 2.5		
OJC	$\Delta = 66\text{km}$		
Pg eZ		13	59 43.4
Sg eN		59	52.2
KSP	$\Delta = 192\text{km}$		
Pg eZ		14	00 04.6
Sg eN		00	27.2

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JUL 16

GIG: $\varphi = 50.259^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$
H = 13:32:57.5, M = 2.6

OJC $\Delta = 67\text{km}$
Pg eZ 13 33 09.2
Sg eN 33 17.9

NIE $\Delta = 141\text{km}$
Pg eZ 13 33 21.9
Sg eE 33 39.9

KSP $\Delta = 193\text{km}$
Pg iZ 13 33 30.0
Sg eN 33 52.5

JUL 16

$\varphi = 50.23^\circ\text{N}$, $\lambda = 19.10^\circ\text{E}$
H = 15:46:01.8, M = 2.3

OJC $\Delta = 50\text{km}$
Pg eZ 15 46 10.5
Sg eN 46 17.4

NIE $\Delta = 126\text{km}$
Pg eZ 15 46 23.4
Sg eE 46 39.1

KSP $\Delta = 210\text{km}$
Pg eZ 15 46 36.0
Sg eN 47 01.7

JUL 18

GIG: $\varphi = 50.257^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$
H = 15:34:44.6, M = 2.2

OJC $\Delta = 66\text{km}$
Pg eZ 15 34 55.9
Sg eE 35 04.4

NIE $\Delta = 140\text{km}$
Pg eZ 15 35 09.0
Sg eE 35 26.6

KSP $\Delta = 193\text{km}$
Pg eZ 15 35 16.6
Sg eZ 35 39.5

JUL 20

GIG: $\varphi = 50.258^\circ\text{N}$, $\lambda = 18.859^\circ\text{E}$
H = 13:24:25.0, M = 2.3

OJC $\Delta = 67\text{km}$
Pg eZ 13 24 37.5
Sg eE 24 45.5

NIE $\Delta = 140\text{km}$
Pg eZ 13 24 49.5
Sg eN 25 06.9

KSP $\Delta = 193\text{km}$
Pg eZ 13 24 57.4
Sg eN 25 19.9

JUL 21

$\varphi = 50.26^\circ\text{N}$, $\lambda = 18.82^\circ\text{E}$
H = 15:50:06.2, M = 2.2

OJC $\Delta = 70\text{km}$
Pg eZ 15 50 18.9
Sg eEN 50 26.8

NIE $\Delta = 143\text{km}$
Pg eZ 15 50 31.0
Sg eE 50 48.7

KSP $\Delta = 190\text{km}$
Pg eZ 15 50 37.9
Sg eN 51 01.0

JUL 22

GIG: $\varphi = 50.231^\circ\text{N}$, $\lambda = 19.075^\circ\text{E}$
H = 10:08:03.2, M = 2.6

OJC $\Delta = 51\text{km}$
Pg iZ 10 08 12.2 D
Sg eN 08 19.0

NIE $\Delta = 127\text{km}$
Pg eZ 10 08 25.4
Sg eE 08 41.6

KSP $\Delta = 209\text{km}$
Pg eZ 10 08 38.1
Sg eN 09 02.5

JUL 22

GIG: $\varphi = 50.212^\circ\text{N}$, $\lambda = 19.064^\circ\text{E}$
H = 17:05:40.7, M = 2.2

OJC $\Delta = 52\text{km}$
Pg eZ 17 05 49.6
Sg eN 05 56.3

NIE $\Delta = 126\text{km}$
Pg eZ 17 06 03.2
Sg eN 06 19.2

KSP $\Delta = 208\text{km}$
Pg eZ 17 06 14.1
Sg eZ 06 38.7

JUL 23

$\varphi = 50.08^\circ\text{N}$, $\lambda = 18.44^\circ\text{E}$
H = 02:08:48.7, M = 1.8

RAC $\Delta = 18\text{km}$
Pg eZ 02 08 52.8
Sg eNE 08 55.5

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OJC	$\Delta = 98\text{km}$ Pg eZ Sg eE	02 09 05.5 09 18.2
NIE	$\Delta = 154\text{km}$ Pg eZ Sg eN	02 09 14.6 09 34.8
<u>JUL 23</u>		
	$\varphi = 50.25^\circ\text{N}, \lambda = 18.80^\circ\text{E}$ $H = 04:39:47.5, M = 2.0$	
OJC	$\Delta = 71\text{km}$ Pg eZ Sg eN	04 40 00.0 40 08.9
NIE	$\Delta = 143\text{km}$ Pg eZ Sg eE	04 40 12.3 40 29.7
KSP	$\Delta = 189\text{km}$ Pg eZ Sg eN	04 40 19.6 40 41.3
<u>JUL 25</u>		
	$\varphi = 50.25^\circ\text{N}, \lambda = 18.85^\circ\text{E}$ $H = 19:27:33.9, M = 2.4$	
OJC	$\Delta = 68\text{km}$ Pg iZ Sg iE	19 27 45.8 27 54.2
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eE	19 27 57.8 28 16.1
KSP	$\Delta = 192\text{km}$ Pg eZ Sg eN	19 28 06.2 28 28.8
<u>JUL 27</u>		
	GIG: $\varphi = 50.258^\circ\text{N}, \lambda = 18.858^\circ\text{E}$ $H = 02:48:33.7, M = 2.4$	
RAC	$\Delta = 52\text{km}$ Pg eZ Sg eNE	02 48 43.1 48 50.4
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eE	02 48 45.4 48 53.9
NIE	$\Delta = 141\text{km}$ Pg eZ Sg eN	02 48 57.6 49 15.1
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	02 49 05.7 49 28.6

<u>JUL 27</u>		
	GIG: $\varphi = 50.258^\circ\text{N}, \lambda = 18.860^\circ\text{E}$ $H = 03:23:42.7, M = 2.3$	
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eN	03 23 54.2 24 02.7
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eN	03 24 06.6 24 23.9
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	03 24 14.9 24 37.6
<u>JUL 28</u>		
	GIG: $\varphi = 50.106^\circ\text{N}, \lambda = 19.171^\circ\text{E}$ $H = 14:42:39.1, M = 2.5$	
OJC	$\Delta = 46\text{km}$ Pg eZ Sg eN	14 42 46.8 42 53.0
NIE	$\Delta = 112\text{km}$ Pg eZ Sg eE	14 42 58.0 43 13.7
KSP	$\Delta = 220\text{km}$ Pg eE Sn eN	14 43 16.3 43 40.7
<u>JUL 29</u>		
	GIG: $\varphi = 50.205^\circ\text{N}, \lambda = 19.071^\circ\text{E}$ $H = 03:28:45.5, M = 2.3$	
OJC	$\Delta = 52\text{km}$ Pg eZ Sg eE	03 28 54.1 29 01.0
NIE	$\Delta = 125\text{km}$ Pg eZ Sg eNE	03 29 06.7 29 23.0
KSP	$\Delta = 209\text{km}$ Pg eZ Sg eN	03 29 19.5 29 44.3
<u>JUL 29</u>		
	GIG: $\varphi = 50.349^\circ\text{N}, \lambda = 18.963^\circ\text{E}$ $H = 15:22:30.9, M = 2.5$	
OJC	$\Delta = 61\text{km}$ Pg eZ Sg eE	15 22 41.4 22 49.4
NIE	$\Delta = 142\text{km}$ Pg eZ Sg eN	15 22 55.7 23 13.4

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KSP	$\Delta = 196\text{km}$ Pg eZ Sg eE	15 23 03.6 23 27.4
<u>JUL 29</u>		
	$\varphi = 50.28^\circ\text{N}, \lambda = 18.87^\circ\text{E}$ $H = 19:27:21.1, M = 2.2$	
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eE	19 27 33.2 27 41.0
NIE	$\Delta = 141\text{km}$ Pg eZ Sg eN	19 27 44.7 28 03.0
KSP	$\Delta = 192\text{km}$ Pg eZ Sg eN	19 27 51.9 28 15.3
<u>AUG 3</u>		
	GIG: $\varphi = 50.259^\circ\text{N}, \lambda = 18.882^\circ\text{E}$ $H = 21:37:32.9, M = 2.4$	
RAC	$\Delta = 52\text{km}$ Pg eZ Sg eNE	21 37 42.7 37 49.7
OJC	$\Delta = 66\text{km}$ Pg eZ Sg iE	21 37 44.4 37 52.9
NIE	$\Delta = 139\text{km}$ Pg eZ Sg eN	21 37 56.5 38 14.0
KSP	$\Delta = 194\text{km}$ Pn eZ Pg eE Sg eN	21 38 03.6 38 05.3 38 28.2
<u>AUG 4</u>		
	GIG: $\varphi = 50.273^\circ\text{N}, \lambda = 18.829^\circ\text{E}$ $H = 03:06:29.2, M = 2.4$	
OJC	$\Delta = 69\text{km}$ Pg eZ Sg eE	03 06 41.2 06 50.5
NIE	$\Delta = 143\text{km}$ Pg eZ Sg eE	03 06 53.6 07 11.6
KSP	$\Delta = 190\text{km}$ Pg eZ Sg eE	03 07 00.8 07 23.1

<u>AUG 5</u>		
	GIG: $\varphi = 50.368^\circ\text{N}, \lambda = 18.907^\circ\text{E}$ $H = 06:34:42.9, M = 2.5$	
OJC	$\Delta = 66\text{km}$ Pg eZ Sg eN	06 34 54.4 35 03.2
NIE	$\Delta = 147\text{km}$ Pg eZ Sg eE	06 35 08.4 35 26.5
KSP	$\Delta = 192\text{km}$ Pg eZ Sg eN	06 35 14.2 35 37.9
<u>AUG 5</u>		
	$\varphi = 50.36^\circ\text{N}, \lambda = 18.90^\circ\text{E}$ $H = 16:10:35.9, M = 2.3$	
OJC	$\Delta = 66\text{km}$ Pg eZ Sg eE	16 10 47.5 10 56.0
NIE	$\Delta = 146\text{km}$ Pg eZ Sg eN	16 11 01.4 11 18.8
KSP	$\Delta = 192\text{km}$ Pg eE Sg eN	16 11 08.3 11 31.3
<u>AUG 6</u>		
	GIG: $\varphi = 50.240^\circ\text{N}, \lambda = 18.923^\circ\text{E}$ $H = 06:07:59.6, M = 2.3$	
OJC	$\Delta = 62\text{km}$ Pg eZ Sg eNE	06 08 10.5 08 18.8
NIE	$\Delta = 136\text{km}$ Pg eZ Sg eE	06 08 23.0 08 40.7
KSP	$\Delta = 198\text{km}$ Pg eE Sg eN	06 08 32.6 08 56.0
<u>AUG 6</u>		
	GIG: $\varphi = 50.261^\circ\text{N}, \lambda = 18.891^\circ\text{E}$ $H = 13:23:08.2, M = 2.2$	
OJC	$\Delta = 65\text{km}$ Pg eZ Sg eE	13 23 19.6 23 28.0
NIE	$\Delta = 139\text{km}$ Pg eZ Sg eE	13 23 32.9 23 50.3

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KSP	$\Delta = 195\text{km}$			
	Pg eE	13	23	40.4
	Sg eN		24	03.2
<u>AUG 6</u>				
GIG:	$\varphi = 50.259^\circ\text{N}, \lambda = 18.858^\circ\text{E}$ $H = 13:31:28.8, M = 2.7$			
RAC	$\Delta = 52\text{km}$			
	Pg eZ	13	31	38.4
	Sg eNE		31	45.6
OJC	$\Delta = 67\text{km}$			
	Pg eZ	13	31	40.5
	Sg eEN		31	49.0
NIE	$\Delta = 141\text{km}$			
	Pg eZ	13	31	52.6
	Sg eN		32	10.3
KSP	$\Delta = 193\text{km}$			
	Pg eZ	13	32	01.0
	Sg eE		32	23.3
KWP	$\Delta = 284\text{km}$			
	Pg eZ	13	32	19.2
	Sg eNE		32	59.0
<u>AUG 6</u>				
GIG:	$\varphi = 50.274^\circ\text{N}, \lambda = 18.830^\circ\text{E}$ $H = 19:49:55.7, M = 2.2$			
OJC	$\Delta = 70\text{km}$			
	Pg iZ	19	50	08.5 C
	Sg eE		50	16.6
NIE	$\Delta = 143\text{km}$			
	Pg eZ	19	50	20.6
	Sg eE		50	39.5
KSP	$\Delta = 190\text{km}$			
	Pg eZ	19	50	27.3
	Sg eE		50	50.1
<u>AUG 10</u>				
GIG:	$\varphi = 50.043^\circ\text{N}, \lambda = 18.462^\circ\text{E}$ $H = 05:18:37.0, M = 2.2$			
RAC	$\Delta = 20\text{km}$			
	Pg eZ	05	18	41.3
	Sg eNE		18	44.8
OJC	$\Delta = 97\text{km}$			
	Pg eZ	05	18	53.3
	Sg eE		19	05.7

NIE	$\Delta = 150\text{km}$			
	Pg eZ	05	19	03.3
	Sg eE		19	22.7
<u>AUG 12</u>				
GIG:	$\varphi = 50.256^\circ\text{N}, \lambda = 18.862^\circ\text{E}$ $H = 15:43:19.6, M = 2.3$			
OJC	$\Delta = 67\text{km}$			
	Pg eZ	15	43	31.5
	Sg eE		43	39.9
NIE	$\Delta = 140\text{km}$			
	Pg eZ	15	43	43.7
	Sg eE		44	01.9
KSP	$\Delta = 193\text{km}$			
	Pg eZ	15	43	51.8
	Sg eN		44	14.5
<u>AUG 16</u>				
GIG:	$\varphi = 50.257^\circ\text{N}, \lambda = 18.862^\circ\text{E}$ $H = 07:18:41.4, M = 2.3$			
OJC	$\Delta = 67\text{km}$			
	Pg eZ	07	18	53.1
	Sg eE		19	01.7
NIE	$\Delta = 140\text{km}$			
	Pg eZ	07	19	05.4
	Sg eE		19	23.6
KSP	$\Delta = 193\text{km}$			
	Pg eZ	07	19	13.6
	Sg eN		19	36.2
<u>AUG 16</u>				
GIG:	$\varphi = 50.363^\circ\text{N}, \lambda = 18.909^\circ\text{E}$ $H = 13:29:15.5, M = 2.4$			
OJC	$\Delta = 65\text{km}$			
	Pg eZ	13	29	26.8
	Sg N		29	35.7
KSP	$\Delta = 193\text{km}$			
	Pg eZ	13	29	47.6
	Sn eE		30	08.3
	Sg eE		30	11.5
<u>AUG 16</u>				
GIG:	$\varphi = 50.257^\circ\text{N}, \lambda = 18.862^\circ\text{E}$ $H = 13:36:44.3, M = 2.4$			
OJC	$\Delta = 67\text{km}$			
	Pg eZ	13	36	55.9
	Sg eE		37	04.6

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KSP	$\Delta = 193\text{km}$ Pg eZ Sg eE	13 37 16.6 37 38.9	
AUG 18			
GIG: $\varphi = 50.041^\circ\text{N}$, $\lambda = 18.462^\circ\text{E}$ $H = 06:32:01.4$, $M = 2.4$			
RAC	$\Delta = 20\text{km}$ Pg eZ Sg eNE	06 32 05.7 32 09.5	
OJC	$\Delta = 97\text{km}$ Pg eZ Sg eN	06 32 17.7 32 30.6	
KSP	$\Delta = 178\text{km}$ Pg eZ Sg eE	06 32 31.8 32 51.8	
AUG 18			
GIG: $\varphi = 50.071^\circ\text{N}$, $\lambda = 18.458^\circ\text{E}$ $H = 23:36:57.3$, $M = 2.5$			
RAC	$\Delta = 19\text{km}$ Pg iZ Sg eNE	23 37 01.7 D 37 04.8	
OJC	$\Delta = 97\text{km}$ Pg eZ Sg eE	23 37 13.9 37 26.0	
KSP	$\Delta = 176\text{km}$ Pn eZ (Pg) eZ Sg eN	23 37 25.6 37 28.4 37 47.9	
AUG 19			
GIG: $\varphi = 50.257^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$ $H = 21:15:32.5$, $M = 2.5$			
RAC	$\Delta = 51\text{km}$ Pg eZ Sg eNE	21 15 42.2 15 49.2	
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eN	21 15 44.1 15 52.7	
KSP	$\Delta = 193\text{km}$ Pg iZ Sg eN	21 16 04.8 D 16 27.4	
AUG 20			
GIG: $\varphi = 50.208^\circ\text{N}$, $\lambda = 19.073^\circ\text{E}$ $H = 04:13:21.9$, $M = 2.4$			
OJC	$\Delta = 52\text{km}$ Pg eZ Sg eE	04 13 30.8 13 37.9	
KSP	$\Delta = 209\text{km}$ Pg eZ Sg eN	04 13 56.3 14 20.8	
AUG 22			
GIG: $\varphi = 50.257^\circ\text{N}$, $\lambda = 18.875^\circ\text{E}$ $H = 00:03:10.3$, $M = 2.5$			
RAC	$\Delta = 53\text{km}$ Pg eZ Sg eNE	00 03 19.8 03 27.1	
OJC	$\Delta = 66\text{km}$ Pg eZ Sg eE	00 03 21.9 03 30.4	
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eN	00 03 34.1 03 52.2	
KSP	$\Delta = 194\text{km}$ Pg eZ Sg eN	00 03 42.5 04 05.1	
AUG 22			
GIG: $\varphi = 50.364^\circ\text{N}$, $\lambda = 18.911^\circ\text{E}$ $H = 00:55:15.7$, $M = 2.5$			
RAC	$\Delta = 60\text{km}$ Pg eZ Sg eNE	00 55 27.0 55 34.8	
OJC	$\Delta = 65\text{km}$ Pg eZ Sg eE	00 55 27.4 55 35.4	
NIE	$\Delta = 146\text{km}$ Pg eZ Sg eE	00 55 40.5 55 58.3	
KSP	$\Delta = 192\text{km}$ Pn eZ Pg eZ Sg eN	00 55 45.4 55 47.8 56 11.5	

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AUG 23

GIG: $\varphi = 50.064^{\circ}\text{N}$, $\lambda = 18.449^{\circ}\text{E}$
H = 01:47:18.1, M = 2.0

RAC $\Delta = 18\text{km}$
Pg eZ 01 47 22.3
Sg eNE 47 25.4

OJC $\Delta = 98\text{km}$
Pg eZ 01 47 35.0
Sg eN 47 47.2

NIE $\Delta = 152\text{km}$
Pg eZ 01 47 44.8
Sg eN 48 02.8

AUG 25

GIG: $\varphi = 50.262^{\circ}\text{N}$, $\lambda = 18.898^{\circ}\text{E}$
H = 01:34:52.3, M = 2.3

OJC $\Delta = 64\text{km}$
Pg eZ 01 35 03.3
Sg eN 35 12.2

NIE $\Delta = 139\text{km}$
Pg eZ 01 35 15.8
Sg eE 35 33.5

KSP $\Delta = 195\text{km}$
Pg eZ 01 35 24.7
Sg eN 35 47.5

AUG 25

GIG: $\varphi = 50.255^{\circ}\text{N}$, $\lambda = 18.862^{\circ}\text{E}$
H = 12:17:23.9, M = 2.4

OJC $\Delta = 67\text{km}$
Pg eZ 12 17 35.7
Sg eE 17 44.3

NIE $\Delta = 140\text{km}$
Pg eZ 12 17 48.2
Sg eE 18 05.8

KSP $\Delta = 193\text{km}$
Pg eZ 12 17 56.0
Sg eN 18 18.1

AUG 26

GIG: $\varphi = 50.213^{\circ}\text{N}$, $\lambda = 19.062^{\circ}\text{E}$
H = 16:09:41.4, M = 2.4

OJC $\Delta = 52\text{km}$
Pg eZ 16 09 50.3
Sg eN 09 57.0

NIE $\Delta = 126\text{km}$
Pg eZ 16 10 03.3
Sg eE 10 19.0

AUG 26

GIG: $\varphi = 50.231^{\circ}\text{N}$, $\lambda = 19.040^{\circ}\text{E}$
H = 16:12:28.5, M = 2.2

OJC $\Delta = 54\text{km}$
Pg eZ 16 12 37.7
Sg eE 12 44.9

NIE $\Delta = 129\text{km}$
Pg eZ 16 12 51.1
Sg eN 13 08.0

KSP $\Delta = 206\text{km}$
Pg eZ 16 13 02.1
Sg eN 13 26.5

AUG 27

GIG: $\varphi = 50.043^{\circ}\text{N}$, $\lambda = 18.462^{\circ}\text{E}$
H = 17:48:49.5, M = 2.2

RAC $\Delta = 20\text{km}$
Pg eZ 17 48 53.9
Sg eNE 48 57.3

OJC $\Delta = 97\text{km}$
Pg eZ 17 49 06.0
Sg eN 49 18.4

NIE $\Delta = 150\text{km}$
Pg eZ 17 49 15.5
Sg eE 49 34.7

KSP $\Delta = 178\text{km}$
Pg eZ 17 49 18.5
Sg eE 49 39.7

AUG 28

GIG: $\varphi = 50.065^{\circ}\text{N}$, $\lambda = 18.445^{\circ}\text{E}$
H = 00:21:11.9, M = 2.2

RAC $\Delta = 18\text{km}$
Pg eZ 00 21 16.0
Sg eNE 21 19.3

OJC $\Delta = 98\text{km}$
Pg eZ 00 21 28.7
Sg eN 21 40.7

NIE $\Delta = 152\text{km}$
Pg eZ 00 21 38.2
Sg eN 21 57.1

AUG 29

GIG: $\varphi = 50.204^{\circ}\text{N}$, $\lambda = 19.073^{\circ}\text{E}$
H = 13:31:05.6, M = 2.3

OJC $\Delta = 51\text{km}$
Pg eZ 13 31 14.3
Sg eN 31 21.2

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NIE	$\Delta = 125\text{km}$			
Pg	eZ	13	31	27.2
Sg	eE		31	43.6
<u>AUG 31</u>				
GIG:	$\varphi = 50.038^\circ\text{N}, \lambda = 18.462^\circ\text{E}$			
	H = 03:44:33.6, M = 2.1			
RAC	$\Delta = 20\text{km}$			
Pg	eZ	03	44	38.0
Sg	eNE		44	41.4
OJC	$\Delta = 98\text{km}$			
Pg	eZ	03	44	50.5
Sg	eNE		45	02.8
NIE	$\Delta = 150\text{km}$			
Pg	eZ	03	44	59.5
Sg	eE		45	18.3
<u>AUG 31</u>				
GIG:	$\varphi = 50.243^\circ\text{N}, \lambda = 18.767^\circ\text{E}$			
	H = 10:49:54.0, M = 2.5			
OJC	$\Delta = 73\text{km}$			
Pg	eZ	10	50	07.2
Sg	eE		50	15.7
NIE	$\Delta = 144\text{km}$			
Pg	eZ	10	50	18.5
Sg	eE		50	36.8
KSP	$\Delta = 187\text{km}$			
Pg	eZ	10	50	24.9
Sg	eN		50	47.0
<u>SEP 1</u>				
GIG:	$\varphi = 50.106^\circ\text{N}, \lambda = 19.171^\circ\text{E}$			
	H = 04:35:38.0, M = 2.6			
OJC	$\Delta = 46\text{km}$			
Pg	eZ	04	35	46.0
Sg	eNE		35	52.1
NIE	$\Delta = 113\text{km}$			
Pg	eZ	04	35	57.1
Sg	eN		36	11.3
KSP	$\Delta = 220\text{km}$			
Pg	eE	04	36	13.5
Sn	eN		36	39.2
<u>SEP 1</u>				
GIG:	$\varphi = 50.260^\circ\text{N}, \lambda = 18.881^\circ\text{E}$			
	H = 15:34:31.7, M = 2.4			
OJC	$\Delta = 65\text{km}$			
Pg	eZ	15	34	43.1
Sg	eE		34	51.6

NIE	$\Delta = 139\text{km}$			
Pg	eZ	15	34	55.4
Sg	eN		35	12.8
KSP	$\Delta = 194\text{km}$			
Pg	eZ	15	35	04.0
Sg	eE		35	27.0
<u>SEP 2</u>				
	$\varphi = 50.09^\circ\text{N}, \lambda = 18.47^\circ\text{E}$			
	H = 01:38:52.2, M = 2.1			
RAC	$\Delta = 20\text{km}$			
Pg	iZ	01	38	56.9 C
Sg	eNE		38	59.9
OJC	$\Delta = 96\text{km}$			
Pg	eZ	01	39	08.8
Sg	eN		39	20.9
NIE	$\Delta = 152\text{km}$			
Pg	eZ	01	39	18.4
Sg	eN		39	37.8
KSP	$\Delta = 176\text{km}$			
Pg	eE	01	39	21.1
Sg	eN		39	42.7
<u>SEP 2</u>				
GIG:	$\varphi = 50.213^\circ\text{N}, \lambda = 19.063^\circ\text{E}$			
	H = 15:51:22.8, M = 2.3			
OJC	$\Delta = 53\text{km}$			
Pg	eZ	15	51	31.8
Sg	eEN		51	39.0
NIE	$\Delta = 127\text{km}$			
Pg	eZ	15	51	45.3
(Sg)	eE		52	02.2
KSP	$\Delta = 208\text{km}$			
Pg	eE	15	51	56.9
Sn	eZ		52	20.8
<u>SEP 3</u>				
GIG:	$\varphi = 50.208^\circ\text{N}, \lambda = 19.073^\circ\text{E}$			
	H = 08:07:02.5, M = 2.4			
OJC	$\Delta = 52\text{km}$			
Pg	eZ	08	07	11.8
Sg	eN		07	18.5
KSP	$\Delta = 209\text{km}$			
Pg	eE	08	07	37.1
Sg	eN		08	01.3

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SEP 6

GIG: $\varphi = 50.363^{\circ}\text{N}$, $\lambda = 18.867^{\circ}\text{E}$
H = 12:19:14.6, M = 2.4

OJC $\Delta = 69\text{km}$
Pg eZ 12 19 27.1
Sg eE 19 35.8

KSP $\Delta = 189\text{km}$
Pg eE 12 19 45.4
Sg eN 20 09.3

SEP 7

GIG: $\varphi = 50.238^{\circ}\text{N}$, $\lambda = 19.069^{\circ}\text{E}$
H = 02:53:45.7, M = 2.3

OJC $\Delta = 52\text{km}$
Pg eZ 02 53 54.8
Sg eN 54 02.0

KSP $\Delta = 207\text{km}$
(Pn) eE 02 54 17.3
Pg eE 54 19.8
Sg eN 54 44.2

SEP 7

GIG: $\varphi = 50.364^{\circ}\text{N}$, $\lambda = 18.867^{\circ}\text{E}$
H = 16:20:16.9, M = 2.5

OJC $\Delta = 68\text{km}$
Pg eZ 16 20 28.8
Sg eEN 20 37.9

NIE $\Delta = 148\text{km}$
Pg eZ 16 20 42.9
Sg eN 21 01.2

KSP $\Delta = 190\text{km}$
Pg eZ 16 20 48.4
Sg eN 21 11.8

SEP 8

GIG: $\varphi = 50.257^{\circ}\text{N}$, $\lambda = 18.862^{\circ}\text{E}$
H = 02:09:15.3, M = 2.8

RAC $\Delta = 52\text{km}$
Pg eZ 02 09 24.7
Sg eNE 09 31.8

OJC $\Delta = 67\text{km}$
Pg eZ 02 09 26.8
Sg eE 09 35.5

NIE $\Delta = 140\text{km}$
Pg eZ 02 09 39.1
Sg eE 09 57.4

KSP $\Delta = 193\text{km}$
Pn eZ 02 09 45.8
Pg iZ 09 47.5
Sg eE 10 09.8

KWP $\Delta = 284\text{km}$
Pn eZ 02 09 56.4
Pg eZ 10 03.3
Sg eNE 10 39.7

GKP $\Delta = 354\text{km}$
Pn eZ 02 10 06.6
Pg eZ 10 16.7
Sg eNE 10 59.0

SEP 8

GIG: $\varphi = 50.211^{\circ}\text{N}$, $\lambda = 19.064^{\circ}\text{E}$
H = 18:16:56.6, M = 2.4

OJC $\Delta = 52\text{km}$
Pg eZ 18 17 06.8
Sg eN 17 12.3

NIE $\Delta = 125\text{km}$
Pg eZ 18 17 18.3
Sg eN 17 33.0

KSP $\Delta = 209\text{km}$
Pg eZ 18 17 31.0
Sg eZ 17 55.1

SEP 8

$\varphi = 50.24^{\circ}\text{N}$, $\lambda = 18.67^{\circ}\text{E}$
H = 21:08:21.1, M = 2.4

RAC $\Delta = 38\text{km}$
Pg eZ 21 08 28.0
Sg eNE 08 33.2

OJC $\Delta = 81\text{km}$
Pg eZ 21 08 35.2
Sg eE 08 45.0

NIE $\Delta = 149\text{km}$
Pg eZ 21 08 46.7
Sg eE 09 05.9

KSP $\Delta = 181\text{km}$
Pg eZ 21 08 51.3
Sg eN 09 12.8

SEP 9

GIG: $\varphi = 50.363^{\circ}\text{N}$, $\lambda = 18.867^{\circ}\text{E}$
H = 17:11:03.0, M = 2.5

OJC $\Delta = 69\text{km}$
Pg eZ 17 11 15.0
Sg eN 11 24.0

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				SEP 13			
NIE	$\Delta = 148\text{km}$			GIG: $\varphi = 50.079^\circ\text{N}$, $\lambda = 19.126^\circ\text{E}$			
	Pg eZ	17	11	H = 23:52:09.1 , M = 2.5			
	Sg eN		11				
				OJC $\Delta = 51\text{km}$			
KSP	$\Delta = 189\text{km}$			Pg eZ	23	52	18.2
	Pg eZ	17	11	Sg eE		52	25.4
	Sg eN		11				
SEP 12				RAC $\Delta = 66\text{km}$			
GIG: $\varphi = 50.213^\circ\text{N}$, $\lambda = 19.064^\circ\text{E}$				Pg eZ	23	52	20.6
H = 15:01:47.3 , M = 2.4				Sg eNE		52	29.5
OJC $\Delta = 52\text{km}$				NIE $\Delta = 113\text{km}$			
	Pg eZ	15	01	Pg eZ	23	52	28.8
	Sg eNE		02	(Sg) eE		52	44.8
NIE	$\Delta = 126\text{km}$			KSP $\Delta = 218\text{km}$			
	Pg eZ	15	02	Pn eZ	23	52	42.7
	Sg eN		02	Pg eN		52	44.5
KSP $\Delta = 208\text{km}$				Sn eN		53	09.5
	Pg eZ	15	02	Sg eN		53	12.1
	Sg eZ		02				
				SEP 14			
SEP 13				$\varphi = 50.25^\circ\text{N}$, $\lambda = 18.82^\circ\text{E}$			
GIG: $\varphi = 50.258^\circ\text{N}$, $\lambda = 18.859^\circ\text{E}$				H = 04:11:56.6 , M = 2.2			
H = 11:21:36.1 , M = 2.2				OJC $\Delta = 70\text{km}$			
OJC	$\Delta = 67\text{km}$			Pg eZ	04	12	09.2
	Pg eZ	11	21	Sg eE		12	17.2
	Sg eE		21				
NIE	$\Delta = 140\text{km}$			NIE $\Delta = 142\text{km}$			
	Pg eZ	11	22	Pg eZ	04	12	21.1
	Sg eE		22	Sg eE		12	38.8
KSP $\Delta = 193\text{km}$				KSP $\Delta = 190\text{km}$			
	Pg eZ	11	22	Pg eZ	04	12	28.5
	Sg eN		22	Sg eN		12	51.4
SEP 13				SEP 14			
GIG: $\varphi = 50.238^\circ\text{N}$, $\lambda = 18.991^\circ\text{E}$				$\varphi = 50.25^\circ\text{N}$, $\lambda = 19.06^\circ\text{E}$			
H = 12:01:40.2 , M = 2.3				H = 17:42:16.3 , M = 2.4			
OJC $\Delta = 58\text{km}$				OJC $\Delta = 53\text{km}$			
	Pg eZ	12	01	Pg eZ	17	42	25.4
	Sg eE		01	Sg eN		42	32.6
NIE	$\Delta = 132\text{km}$			NIE $\Delta = 128\text{km}$			
	Pg eZ	12	02	Pg eZ	17	42	39.0
	Sg eE		02	Sg eN		42	54.5
KSP $\Delta = 202\text{km}$				KSP $\Delta = 207\text{km}$			
	Pg eZ	12	02	Pg eZ	17	42	50.3
	Sg eN		02	Sg eZ		43	15.3

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SEP 15

GIG: $\varphi = 50.213^\circ\text{N}$, $\lambda = 19.067^\circ\text{E}$
H = 14:50:05.8, M = 2.4

OJC $\Delta = 52\text{km}$
Pg eZ 14 50 14.7
Sg eN 50 21.5

NIE $\Delta = 126\text{km}$
Pg eZ 14 50 28.2
Sg eE 50 44.8

KSP $\Delta = 208\text{km}$
Pg eZ 14 50 40.0
Sg eN 51 04.2

SEP 16

GIG: $\varphi = 50.363^\circ\text{N}$, $\lambda = 18.867^\circ\text{E}$
H = 07:49:58.0, M = 2.4

OJC $\Delta = 69\text{km}$
Pg eZ 07 50 10.7
Sg eE 50 18.9

NIE $\Delta = 148\text{km}$
Pg eZ 07 50 24.0
Sg eN 50 41.6

KSP $\Delta = 189\text{km}$
Pg eZ 07 50 28.6
Sg eN 50 52.7

SEP 16

GIG: $\varphi = 50.255^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$
H = 10:28:48.5, M = 2.4

OJC $\Delta = 67\text{km}$
Pg eZ 10 29 00.3
Sg eE 29 08.7

NIE $\Delta = 140\text{km}$
Pg eZ 10 29 12.7
Sg eE 29 29.7

KSP $\Delta = 193\text{km}$
Pg eZ 10 29 20.7
Sg eN 29 43.1

SEP 16

GIG: $\varphi = 50.29^\circ\text{N}$, $\lambda = 18.99^\circ\text{E}$
H = 16:24:25.6, M = 2.1

OJC $\Delta = 58\text{km}$
Pg eZ 16 24 35.7
Sg eE 24 42.9

NIE $\Delta = 136\text{km}$
Pg eZ 16 24 49.2
Sg eE 25 05.3

KSP $\Delta = 201\text{km}$
Pg eZ 16 24 58.9
Sg eE 25 23.1

SEP 16

GIG: $\varphi = 50.262^\circ\text{N}$, $\lambda = 18.898^\circ\text{E}$
H = 20:25:24.2, M = 2.4

OJC $\Delta = 64\text{km}$
Pg eZ 20 25 35.4
Sg eN 25 43.7

NIE $\Delta = 139\text{km}$
Pg eZ 20 25 48.1
Sg eE 26 05.9

KSP $\Delta = 195\text{km}$
Pg eZ 20 25 56.8
Sg eN 26 19.7

SEP 16

GIG: $\varphi = 50.213^\circ\text{N}$, $\lambda = 19.065^\circ\text{E}$
H = 22:39:44.1, M = 2.2

OJC $\Delta = 52\text{km}$
Pg eZ 22 39 53.3
Sg eN 40 00.0

NIE $\Delta = 126\text{km}$
Pg eZ 22 40 06.1
Sg eNE 40 22.3

KSP $\Delta = 208\text{km}$
Pg eE 22 40 18.6
Sg eN 40 43.5

SEP 17

GIG: $\varphi = 50.211^\circ\text{N}$, $\lambda = 19.062^\circ\text{E}$
H = 01:27:29.4, M = 2.2

OJC $\Delta = 52\text{km}$
Pg eZ 01 27 38.0
Sg eE 27 45.5

NIE $\Delta = 126\text{km}$
Pg eZ 01 27 51.3
Sg eE 28 08.6

KSP $\Delta = 208\text{km}$
Pg eZ 01 28 03.2
Sg eN 28 28.4

SEP 17

GIG: $\varphi = 50.362^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$
H = 07:41:52.4, M = 2.4

OJC $\Delta = 69\text{km}$
Pg eZ 07 42 04.9
Sg eE 42 13.1

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NIE	$\Delta = 148\text{km}$		
Pg	eZ	07	42 18.3
Sg	eE		42 36.2
KSP	$\Delta = 189\text{km}$		
Pg	eZ	07	42 23.1
Sg	eE		42 45.9
<u>SEP 17</u>			
GIG:	$\varphi = 50.256^\circ\text{N}, \lambda = 18.861^\circ\text{E}$ $H = 12:59:50.2, M = 2.0$		
OJC	$\Delta = 67\text{km}$		
Pg	eZ	13	00 01.8
Sg	eEN		00 10.4
NIE	$\Delta = 140\text{km}$		
Pg	eZ	13	00 14.6
Sg	eN		00 31.3
KSP	$\Delta = 193\text{km}, M = 1.9$		
Pg	eZ	13	00 21.6
Sg	eN		00 44.8
<u>SEP 17</u>			
GIG:	$\varphi = 50.364^\circ\text{N}, \lambda = 18.911^\circ\text{E}$ $H = 20:54:21.5, M = 2.5$		
RAC	$\Delta = 60\text{km}$		
Pg	eZ	20	54 32.4
Sg	eNE		54 40.3
OJC	$\Delta = 65\text{km}$		
Pg	iZ	20	54 32.8 D
Sg	iN		54 41.6
NIE	$\Delta = 146\text{km}$		
Pg	eZ	20	54 47.0
Sg	eN		55 04.8
KSP	$\Delta = 192\text{km}$		
Pn	eZ	20	54 52.3
Pg	eZ		54 53.3
Sg	eN		55 16.5
<u>SEP 19</u>			
GIG:	$\varphi = 50.368^\circ\text{N}, \lambda = 18.909^\circ\text{E}$ $H = 00:14:55.2, M = 2.6$		
RAC	$\Delta = 60\text{km}$		
Pg	eZ	00	15 06.0
Sg	eNE		15 14.0
OJC	$\Delta = 65\text{km}$		
Pg	eZ	00	15 06.5
Sg	eE		15 15.3

NIE	$\Delta = 146\text{km}$		
Pg	eZ	00	15 19.9
Sg	eE		15 38.4
KSP	$\Delta = 192\text{km}$		
Pg	eN	00	15 27.0
Sg	eE		15 50.1
<u>SEP 19</u>			
GIG:	$\varphi = 50.213^\circ\text{N}, \lambda = 19.064^\circ\text{E}$ $H = 14:34:06.3, M = 2.3$		
OJC	$\Delta = 52\text{km}$		
Pg	eZ	14	34 15.5
Sg	eN		34 22.6
KSP	$\Delta = 208\text{km}$		
Pg	eE	14	34 40.5
Sg	eN		35 05.3
<u>SEP 20</u>			
GIG:	$\varphi = 50.213^\circ\text{N}, \lambda = 19.064^\circ\text{E}$ $H = 12:17:04.4, M = 2.4$		
OJC	$\Delta = 52\text{km}$		
Pg	eZ	12	17 13.0
Sg	eN		17 20.2
NIE	$\Delta = 126\text{km}$		
Pg	eZ	12	17 26.1
Sg	eN		17 42.1
KSP	$\Delta = 208\text{km}$		
Pn	eZ	12	17 37.5
Pg	eZ		17 39.7
Sn	eN		18 01.8
Sg	eN		18 04.2
<u>SEP 21</u>			
	$\varphi = 50.28^\circ\text{N}, \lambda = 18.87^\circ\text{E}$ $H = 00:58:26.2, M = 2.2$		
OJC	$\Delta = 66\text{km}$		
Pg	eZ	00	58 38.1
Sg	eE		58 46.5
NIE	$\Delta = 142\text{km}$		
Pg	eZ	00	58 50.5
Sg	eE		59 08.3
KSP	$\Delta = 192\text{km}$		
Pg	eZ	00	58 58.1
Sg	eN		59 21.6

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SEP 22

GIG: $\varphi = 50.255^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$
H = 09:13:01.3, M = 2.2

OJC $\Delta = 67\text{km}$
Pg eZ 09 13 13.7
Sg eE 13 21.6

NIE $\Delta = 140\text{km}$
Pg eZ 09 13 25.6
Sg eN 13 44.4

KSP $\Delta = 193\text{km}$
Pg eZ 09 13 33.4
Sn eE 13 55.2

SEP 24

GIG: $\varphi = 50.261^\circ\text{N}$, $\lambda = 18.898^\circ\text{E}$
H = 06:14:37.0, M = 2.2

OJC $\Delta = 64\text{km}$
Pg eZ 06 14 48.2
Sg eE 14 56.4

NIE $\Delta = 139\text{km}$
Pg eZ 06 15 01.4
Sg eE 15 19.0

KSP $\Delta = 195\text{km}$
Pg eZ 06 15 09.1
Sn eN 15 31.5

SEP 25

GIG: $\varphi = 50.270^\circ\text{N}$, $\lambda = 18.845^\circ\text{E}$
H = 00:42:23.7, M = 2.7

RAC $\Delta = 50\text{km}$
Pg eZ 00 42 33.3
Sg eNE 42 39.4

OJC $\Delta = 68\text{km}$
Pg eZ 00 42 35.7
Sg eE 42 45.0

NIE $\Delta = 142\text{km}$
Pg eZ 00 42 48.4
Sg eN 43 06.0

KSP $\Delta = 192\text{km}$
Pn eZ 00 42 53.9
Pg iZ 42 56.0
Sg eE 43 18.3

KWP $\Delta = 286\text{km}$
Pn eZ 00 43 08.0
Pg eZ 43 14.9
Sg eNE 43 51.9

SEP 26

GIG: $\varphi = 50.214^\circ\text{N}$, $\lambda = 19.064^\circ\text{E}$
H = 14:20:08.9, M = 2.2

OJC $\Delta = 52\text{km}$
Pg eZ 14 20 18.0
Sg eN 20 24.7

NIE $\Delta = 126\text{km}$
Pg eZ 14 20 31.0
Sg eE 20 47.0

KSP $\Delta = 208\text{km}$
Pg eZ 14 20 44.0
Sg eN 21 08.1

SEP 26

GIG: $\varphi = 50.255^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$
H = 18:30:01.5, M = 2.3

OJC $\Delta = 67\text{km}$
Pg eZ 18 30 13.3
Sg eE 30 22.0

NIE $\Delta = 140\text{km}$
Pg eZ 18 30 25.9
Sg eE 30 43.8

KSP $\Delta = 193\text{km}$
Pg eZ 18 30 33.5
Sg eN 30 56.5

SEP 26

GIG: $\varphi = 50.255^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$
H = 19:25:42.9, M = 2.7

RAC $\Delta = 51\text{km}$
Pg eZ 19 25 52.5
Sg eNE 25 59.5

OJC $\Delta = 67\text{km}$
Pg eZ 19 25 54.5
Sg eN 26 02.9

NIE $\Delta = 139\text{km}$
Pg eZ 19 26 07.0
Sg eN 26 24.4

KSP $\Delta = 193\text{km}$
Pg iZ 19 26 15.1 D
Sg eE 26 37.5

KWP $\Delta = 284\text{km}$
Pn eZ 19 26 26.9
Pg eZ 26 32.9
Sg eNE 27 12.7

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SEP 27

GIG: $\varphi = 50.213^\circ\text{N}$, $\lambda = 19.064^\circ\text{E}$
H = 20:04:04.8, M = 2.2

OJC $\Delta = 52\text{km}$
Pg eZ 20 04 13.4
Sg eN 04 20.3

NIE $\Delta = 126\text{km}$
Pg eZ 20 04 26.5
Sg eE 04 42.5

KSP $\Delta = 208\text{km}$
Pg eZ 20 04 40.0
Sg eN 05 03.1

SEP 27

$\varphi = 50.24^\circ\text{N}$, $\lambda = 18.84^\circ\text{E}$
H = 20:46:13.1, M = 2.1

RAC $\Delta = 49\text{km}$
Pg eZ 20 46 22.3
Sg eNE 46 27.9

OJC $\Delta = 69\text{km}$
Pg eZ 20 46 25.8
Sg eE 46 33.7

NIE $\Delta = 140\text{km}$
Pg eZ 20 46 37.5
Sg eN 46 54.7

KSP $\Delta = 192\text{km}$
Pg eZ 20 46 45.3
Sg eN 47 06.9

SEP 28

$\varphi = 50.40^\circ\text{N}$, $\lambda = 18.87^\circ\text{E}$
H = 02:21:04.4, M = 2.2

OJC $\Delta = 69\text{km}$
Pg eZ 02 21 16.4
Sg eN 21 25.3

NIE $\Delta = 151\text{km}$
Pg eZ 02 21 30.7
Sg eE 21 48.4

KSP $\Delta = 188\text{km}$
Pg eE 02 21 35.6
Sg eN 21 58.6

SEP 28

$\varphi = 50.23^\circ\text{N}$, $\lambda = 18.82^\circ\text{E}$
H = 14:31:00.6, M = 2.0

OJC $\Delta = 70\text{km}$
Pg eZ 14 31 12.7
Sg eN 31 22.1

NIE $\Delta = 140\text{km}$
Pg eZ 14 31 24.4
Sg eE 31 42.4

KSP $\Delta = 192\text{km}$
Pg eE 14 31 31.7
Sg eN 31 56.6

SEP 29

GIG: $\varphi = 50.365^\circ\text{N}$, $\lambda = 18.913^\circ\text{E}$
H = 12:11:35.7, M = 2.5

OJC $\Delta = 65\text{km}$
Pg eZ 12 11 47.3
Sg eN 11 56.4

NIE $\Delta = 146\text{km}$
Pg eZ 12 12 01.6
Sg eN 12 19.5

KSP $\Delta = 192\text{km}$
Pg eZ 12 12 07.0
Sg eN 12 30.1

SEP 29

GIG: $\varphi = 50.080^\circ\text{N}$, $\lambda = 18.431^\circ\text{E}$
H = 21:31:37.6, M = 1.9

RAC $\Delta = 17\text{km}$
Pg eZ 21 31 41.5
Sg eNE 31 44.3

OJC $\Delta = 99\text{km}$
Pg eZ 21 31 54.9
Sg eN 32 07.4

NIE $\Delta = 154\text{km}$
Pg eZ 21 32 04.8
Sg eE 32 24.5

SEP 29

GIG: $\varphi = 50.081^\circ\text{N}$, $\lambda = 18.432^\circ\text{E}$
H = 22:19:43.4, M = 2.3

RAC $\Delta = 17\text{km}$
Pg eZ 22 19 47.5
Sg eNE 19 50.4

OJC $\Delta = 99\text{km}$
Pg eZ 22 20 00.3
Sg eN 20 12.7

NIE $\Delta = 154\text{km}$
Pg eZ 22 20 10.2
Sg eE 20 30.5

KSP $\Delta = 174\text{km}$
Pg eZ 22 20 11.5
Sg eN 20 32.7

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SEP 30

GIG: $\varphi = 50.363^{\circ}\text{N}$, $\lambda = 18.871^{\circ}\text{E}$
H = 00:57:59.9, **M = 2.3**

OJC $\Delta = 68\text{km}$
Pg eZ 00 58 12.4
Sg eN 58 20.6

NIE $\Delta = 148\text{km}$
Pg eZ 00 58 26.0
Sg eE 58 43.3

KSP $\Delta = 190\text{km}$
Pg eE 00 58 30.8
Sn eN 58 52.0
Sg eN 58 54.4

SEP 30

GIG: $\varphi = 50.079^{\circ}\text{N}$, $\lambda = 19.124^{\circ}\text{E}$
H = 04:57:46.8, **M = 2.6**

OJC $\Delta = 50\text{km}$
Pg iZ 04 57 55.3 D
Sg iN 58 02.2

NIE $\Delta = 113\text{km}$
Pg eZ 04 58 05.9
Sg eE 58 21.9

KSP $\Delta = 218\text{km}$
Pg eZ 04 58 22.5
Sg eN 58 48.7

SEP 30

GIG: $\varphi = 50.065^{\circ}\text{N}$, $\lambda = 18.461^{\circ}\text{E}$
H = 07:45:29.3, **M = 2.3**

RAC $\Delta = 19\text{km}$
Pg eZ 07 45 33.7
Sg eNE 45 36.8

OJC $\Delta = 97\text{km}$
Pg eZ 07 45 45.4
Sg eN 45 59.3

NIE $\Delta = 152\text{km}$
Pg eZ 07 45 56.4
Sg eN 46 15.5

KSP $\Delta = 176\text{km}$
Pg eZ 07 45 57.9
Sg eE 46 19.8

SEP 30

GIG: $\varphi = 50.363^{\circ}\text{N}$, $\lambda = 18.867^{\circ}\text{E}$
H = 13:58:52.5, **M = 2.3**

OJC $\Delta = 68\text{km}$
Pg eZ 13 59 04.5
Sg eN 59 13.2

NIE $\Delta = 147\text{km}$
Pg eZ 13 59 18.2
Sg eE 59 36.7

KSP $\Delta = 190\text{km}$
Pg eZ 13 59 23.9
Sg eN 59 46.8

SEP 30

GIG: $\varphi = 50.242^{\circ}\text{N}$, $\lambda = 18.924^{\circ}\text{E}$
H = 20:02:17.1, **M = 2.4**

OJC $\Delta = 62\text{km}$
Pg eZ 20 02 27.8
Sg eE 02 35.8

NIE $\Delta = 136\text{km}$
Pg eZ 20 02 40.5
Sg eE 02 57.9

KSP $\Delta = 198\text{km}$
Pg eE 20 02 49.9
Sg eN 03 13.4

OCT 1

GIG: $\varphi = 50.065^{\circ}\text{N}$, $\lambda = 18.462^{\circ}\text{E}$
H = 01:28:25.8, **M = 2.6**

RAC $\Delta = 19\text{km}$
Pg iZ 01 28 30.1 D
Sg iN 28 33.6

OJC $\Delta = 97\text{km}$
Pg eZ 01 28 42.3
Sg eN 28 55.4

NIE $\Delta = 152\text{km}$
Pg eZ 01 28 52.1
Sg eE 29 11.1

KSP $\Delta = 176\text{km}$
Pg eZ 01 28 54.2
Sg eN 29 16.2

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OCT 1

GIG: $\varphi = 50.364^{\circ}\text{N}$, $\lambda = 18.907^{\circ}\text{E}$
H = 04:12:53.8, M = 2.0

OJC $\Delta = 65\text{km}$
Pg eZ 04 13 05.0
Sg eN 13 13.9

NIE $\Delta = 146\text{km}$
Pg eZ 04 13 18.6
Sg eN 13 36.8

KSP $\Delta = 192\text{km}$
Pg eE 04 13 26.8
(Sg) eZ 13 47.3

OCT 4

GIG: $\varphi = 50.266^{\circ}\text{N}$, $\lambda = 18.882^{\circ}\text{E}$
H = 17:25:31.9, M = 2.4

OJC $\Delta = 66\text{km}$
Pg eZ 17 25 43.4
Sg eE 25 51.9

NIE $\Delta = 140\text{km}$
Pg eZ 17 25 56.5
Sg eE 26 14.2

KSP $\Delta = 194\text{km}$
Pg eZ 17 26 04.4
Sg eN 26 27.0

OCT 4

GIG: $\varphi = 50.363^{\circ}\text{N}$, $\lambda = 18.866^{\circ}\text{E}$
H = 18:40:42.4, M = 2.2

OJC $\Delta = 69\text{km}$
Pg eZ 18 40 54.6
Sg eE 41 03.3

NIE $\Delta = 148\text{km}$
Pg eZ 18 41 08.7
Sg eN 41 26.3

KSP $\Delta = 189\text{km}$
Pg eZ 18 41 12.8
Sn eN 41 35.2

OCT 5

GIG: $\varphi = 50.255^{\circ}\text{N}$, $\lambda = 18.862^{\circ}\text{E}$
H = 04:31:35.4, M = 2.2

OJC $\Delta = 67\text{km}$
Pg eZ 04 31 47.1
Sg NE 31 55.6

NIE $\Delta = 140\text{km}$
Pg eZ 04 31 59.5
Sg eE 32 17.5

KSP $\Delta = 193\text{km}$
Pg eZ 04 32 07.7
Sg eN 32 29.9

OCT 5

GIG: $\varphi = 50.363^{\circ}\text{N}$, $\lambda = 18.864^{\circ}\text{E}$
H = 18:49:34.3, M = 2.3

OJC $\Delta = 69\text{km}$
Pg eZ 18 49 46.5
Sg eE 49 55.3

NIE $\Delta = 148\text{km}$
Pg eZ 18 50 00.4
Sg eN 50 18.6

KSP $\Delta = 189\text{km}$
Pg eE 18 50 05.8
Sg eN 50 28.0

OCT 6

GIG: $\varphi = 50.257^{\circ}\text{N}$, $\lambda = 18.860^{\circ}\text{E}$
H = 07:25:39.8, M = 2.6

RAC $\Delta = 52\text{km}$
Pg eZ 07 25 49.5
Sg eNE 25 56.6

OJC $\Delta = 67\text{km}$
Pg eZ 07 25 51.5
Sg eN 25 59.7

NIE $\Delta = 140\text{km}$
Pg eZ 07 26 03.8
Sg eE 26 20.8

KSP $\Delta = 193\text{km}$
Pg eZ 07 26 11.9
Sg eN 26 34.3

KWP $\Delta = 284\text{km}$
Pg eZ 07 26 29.9
Sg eNE 27 09.7

OCT 6

GIG: $\varphi = 50.106^{\circ}\text{N}$, $\lambda = 19.164^{\circ}\text{E}$
H = 20:51:40.7, M = 2.6

OJC $\Delta = 47\text{km}$
Pg eZ 20 51 48.5
Sg eN 51 54.7

NIE $\Delta = 113\text{km}$
Pg eZ 20 52 00.2
(Sg) eE 52 16.1

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KSP	$\Delta = 219\text{km}$ Pg eZ Sg eN	20 52 16.8 52 42.5
<u>OCT 7</u>		
GIG:	$\varphi = 50.365^\circ\text{N}$, $\lambda = 18.908^\circ\text{E}$ $H = 13:16:00.9$, $M = 2.3$	
OJC	$\Delta = 66\text{km}$ Pg eZ Sg eE	13 16 12.1 16 21.2
NIE	$\Delta = 146\text{km}$ Pg eZ Sg eE	13 16 26.4 16 44.6
KSP	$\Delta = 192\text{km}$ Pg eE Sg eN	13 16 32.5 16 55.9
<u>OCT 8</u>		
GIG:	$\varphi = 50.213^\circ\text{N}$, $\lambda = 19.126^\circ\text{E}$ $H = 03:12:49.8$, $M = 2.4$	
OJC	$\Delta = 48\text{km}$ Pg iZ Sg iE	03 12 57.9 D 13 04.8
NIE	$\Delta = 123\text{km}$ Pg eZ Sg eE	03 13 11.6 13 27.3
KSP	$\Delta = 212\text{km}$ Pg eE Sg eN	03 13 23.7 13 49.5
KWP	$\Delta = 265\text{km}$ P eZ Sg eNE	03 13 33.6 14 07.0
<u>OCT 8</u>		
GIG:	$\varphi = 50.365^\circ\text{N}$, $\lambda = 18.908^\circ\text{E}$ $H = 20:58:27.6$, $M = 2.1$	
OJC	$\Delta = 66\text{km}$ Pg eZ Sg eN	20 58 39.2 58 46.8
NIE	$\Delta = 146\text{km}$ Pg eZ Sg eE	20 58 53.4 59 11.5
KSP	$\Delta = 192\text{km}$ Pg eE Sg eN	20 58 59.2 59 23.8

<u>OCT 9</u>		
GIG:	$\varphi = 50.362^\circ\text{N}$, $\lambda = 18.867^\circ\text{E}$ $H = 10:36:04.4$, $M = 2.3$	
OJC	$\Delta = 68\text{km}$ Pg eZ Sg eN	10 36 15.6 36 24.5
NIE	$\Delta = 148\text{km}$ Pg eZ Sg eN	10 36 30.3 36 48.0
KSP	$\Delta = 190\text{km}$ Pg eZ Sg eN	10 36 35.4 36 58.2
<u>OCT 10</u>		
GIG:	$\varphi = 50.266^\circ\text{N}$, $\lambda = 18.882^\circ\text{E}$ $H = 21:32:00.2$, $M = 2.4$	
OJC	$\Delta = 65\text{km}$ Pg eZ Sg eE	21 32 11.9 32 19.5
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eE	21 32 25.1 32 42.4
KSP	$\Delta = 194\text{km}$ Pg eZ Sg eN	21 32 33.0 32 55.7
KWP	$\Delta = 282\text{km}$ Pg eZ	21 32 51.0
<u>OCT 11</u>		
GIG:	$\varphi = 50.091^\circ\text{N}$, $\lambda = 18.441^\circ\text{E}$ $H = 01:26:25.6$, $M = 2.5$	
RAC	$\Delta = 18\text{km}$ Pg iZ Sg eNE	01 26 29.1 D 26 32.5
OJC	$\Delta = 98\text{km}$ Pg eZ Sg eN	01 26 41.9 26 54.7
NIE	$\Delta = 154\text{km}$ Pg eZ Sg eN	01 26 51.7 27 11.8
KSP	$\Delta = 174\text{km}$ Pn eZ Pg Z Sg eN	01 26 53.0 26 55.4 27 16.1

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OCT 11

GIG: $\varphi = 50.363^{\circ}\text{N}$, $\lambda = 18.865^{\circ}\text{E}$
H = 15:00:50.2, M = 2.4

OJC $\Delta = 69\text{km}$
Pg eZ 15 01 02.5
Sg eE 01 11.0

NIE $\Delta = 148\text{km}$
Pg eZ 15 01 16.2
Sg eN 01 34.3

KSP $\Delta = 189\text{km}$
Pg eZ 15 01 21.4
Sg eN 01 44.4

OCT 13

GIG: $\varphi = 50.255^{\circ}\text{N}$, $\lambda = 18.862^{\circ}\text{E}$
H = 01:30:56.1, M = 2.3

RAC $\Delta = 51\text{km}$
Pg eZ 01 31 05.9
Sg eNE 31 11.3

OJC $\Delta = 67\text{km}$
Pg eZ 01 31 07.9
Sg eEN 31 16.5

NIE $\Delta = 139\text{km}$
Pg eZ 01 31 20.2
Sg eE 31 38.1

KSP $\Delta = 193\text{km}$
Pg eZ 01 31 28.5
Sg eE 31 51.4

OCT 13

GIG: $\varphi = 50.265^{\circ}\text{N}$, $\lambda = 18.860^{\circ}\text{E}$
H = 03:43:22.3, M = 2.7

RAC $\Delta = 51\text{km}$
Pg eZ 03 43 31.9
Sg eNE 43 38.4

OJC $\Delta = 67\text{km}$
Pg eZ 03 43 34.1
Sg eN 43 42.6

NIE $\Delta = 140\text{km}$
Pg eZ 03 43 46.4
Sg eE 44 04.2

KSP $\Delta = 193\text{km}$
Pn eZ 03 43 53.0
Pg iZ 43 54.7
Sg eN 44 17.5

KWP $\Delta = 285\text{km}$
Pg eZ 03 44 11.6
Sg eNE 44 50.2

OCT 14

GIG: $\varphi = 50.256^{\circ}\text{N}$, $\lambda = 18.862^{\circ}\text{E}$
H = 00:06:10.5, M = 2.6

RAC $\Delta = 52\text{km}$
Pg eZ 00 06 20.0
Sg eNE 06 27.0

OJC $\Delta = 67\text{km}$
Pg eZ 00 06 22.2
Sg eE 06 30.8

NIE $\Delta = 140\text{km}$
Pg eZ 00 06 34.7
Sg eN 06 52.0

KSP $\Delta = 193\text{km}$
Pg iZ 00 06 42.8 D
Sg eE 07 05.1

KWP $\Delta = 284\text{km}$
Pg eZ 00 06 58.6
Sg eNE 07 40.7

OCT 14

GIG: $\varphi = 50.363^{\circ}\text{N}$, $\lambda = 18.866^{\circ}\text{E}$
H = 03:22:54.2, M = 2.4

OJC $\Delta = 68\text{km}$
Pg eZ 03 23 06.4
Sg eE 23 15.0

NIE $\Delta = 148\text{km}$
Pg eZ 03 23 20.1
Sg eE 23 37.6

KSP $\Delta = 189\text{km}$
Pg eZ 03 23 25.2
Sn eN 23 47.0

OCT 14

GIG: $\varphi = 50.364^{\circ}\text{N}$, $\lambda = 18.909^{\circ}\text{E}$
H = 04:23:27.4, M = 2.4

OJC $\Delta = 66\text{km}$
Pg eZ 04 23 38.8
Sg eN 23 47.8

NIE $\Delta = 146\text{km}$
Pg eZ 04 23 52.4
Sg eN 24 10.0

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KSP	$\Delta = 192\text{km}$																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									</
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OCT 18

GIG: $\varphi = 50.234^{\circ}\text{N}$, $\lambda = 19.041^{\circ}\text{E}$
H = 11:25:32.0, M = 2.4

OJC $\Delta = 54\text{km}$
Pg eZ 11 25 41.4
Sg eE 25 48.5

NIE $\Delta = 129\text{km}$
Pg eZ 11 25 54.5
Sg eN 26 10.7

KSP $\Delta = 206\text{km}$
Pg eZ 11 26 05.5
Sg eN 26 30.0

OCT 18

GIG: $\varphi = 50.363^{\circ}\text{N}$, $\lambda = 18.865^{\circ}\text{E}$
H = 13:43:29.4, M = 2.3

OJC $\Delta = 68\text{km}$
Pg eZ 13 43 41.4
Sg eEN 43 50.2

NIE $\Delta = 148\text{km}$
Pg eZ 13 43 55.1
Sg eN 44 12.9

KSP $\Delta = 190\text{km}$
Pg E 13 44 01.6
Sg eN 44 23.4

OCT 20

GIG: $\varphi = 50.362^{\circ}\text{N}$, $\lambda = 18.864^{\circ}\text{E}$
H = 02:09:40.2, M = 2.3

OJC $\Delta = 69\text{km}$
Pg eZ 02 09 52.6
Sg eN 10 00.9

NIE $\Delta = 148\text{km}$
Pg eZ 02 10 06.1
Sg eE 10 23.3

KSP $\Delta = 189\text{km}$
Pn eE 02 10 09.9
Sg eE 10 34.9

OCT 20

GIG: $\varphi = 50.264^{\circ}\text{N}$, $\lambda = 18.868^{\circ}\text{E}$
H = 14:28:01.5, M = 2.6

OJC $\Delta = 66\text{km}$
Pg eZ 14 28 13.3
Sg eN 28 21.7

NIE $\Delta = 140\text{km}$
Pg eZ 14 28 26.4
Sg eN 28 43.5

KSP $\Delta = 193\text{km}$
Pg iZ 14 28 33.9 C
Sg eE 28 56.7

KWP $\Delta = 284\text{km}$
Pg eZ 14 28 51.2
Sg eNE 29 34.0

OCT 20

GIG: $\varphi = 50.363^{\circ}\text{N}$, $\lambda = 18.865^{\circ}\text{E}$
H = 17:28:14.6, M = 2.4

OJC $\Delta = 68\text{km}$
Pg eZ 17 28 26.4
Sg eE 28 35.0

NIE $\Delta = 148\text{km}$
Pg eZ 17 28 40.9
Sg eN 28 58.8

KSP $\Delta = 190\text{km}$
Pg eZ 17 28 46.0
Sn eN 29 06.6
Sg eN 29 09.1

OCT 22

GIG: $\varphi = 50.255^{\circ}\text{N}$, $\lambda = 18.862^{\circ}\text{E}$
H = 03:58:47.3, M = 2.5

RAC $\Delta = 52\text{km}$
Pg eZ 03 58 56.9
Sg eNE 59 03.7

OJC $\Delta = 67\text{km}$
Pg eZ 03 58 59.0
Sg eE 59 07.5

NIE $\Delta = 140\text{km}$
Pg eZ 03 59 11.4
Sg eE 59 28.5

KSP $\Delta = 193\text{km}$
Pn eZ 03 59 17.7
Pg iZ 59 19.7
Sg eN 59 42.2

KWP $\Delta = 284\text{km}$
Pg eZ 03 59 37.2
S eNE 04 00 07.8

OCT 22

GIG: $\varphi = 50.066^{\circ}\text{N}$, $\lambda = 18.462^{\circ}\text{E}$
H = 09:06:35.9, M = 2.5

RAC $\Delta = 19\text{km}$
Pg iZ 09 06 40.1 C
Sg eNE 06 43.6

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OJC	$\Delta = 97\text{km}$ Pg eZ Sg eN	09 06 52.0 07 04.0		KSP	$\Delta = 218\text{km}$ Pg eZ Sg eN	03 50 56.4 51 23.5
NIE	$\Delta = 152\text{km}$ Pg eZ Sg eE	09 07 02.1 07 21.4		<u>OCT 27</u>		
				GIG:	$\varphi = 50.362^\circ\text{N}$, $\lambda = 18.865^\circ\text{E}$ $H = 02:44:56.2$, $M = 2.4$	
KSP	$\Delta = 176\text{km}$ Pn eZ Sn eE	09 07 03.8 07 25.2		OJC	$\Delta = 68\text{km}$ Pg eZ Sg eE	02 45 08.2 45 17.1
<u>OCT 25</u>				NIE	$\Delta = 148\text{km}$ Pg eZ Sg eE	02 45 22.1 45 39.8
GIG:	$\varphi = 50.363^\circ\text{N}$, $\lambda = 18.866^\circ\text{E}$ $H = 14:41:46.5$, $M = 2.4$			KSP	$\Delta = 190\text{km}$ Pg eZ Sg eN	02 45 27.3 45 50.4
OJC	$\Delta = 68\text{km}$ Pg eZ Sg eE	14 41 58.7 42 07.4		<u>OCT 28</u>		
KSP	$\Delta = 189\text{km}$ Pn eZ Sg eN	14 42 16.9 42 40.7			$\varphi = 50.27^\circ\text{N}$, $\lambda = 19.06^\circ\text{E}$ $H = 00:27:15.2$, $M = 2.0$	
<u>OCT 25</u>				OJC	$\Delta = 53\text{km}$ Pg eZ Sg eE	00 27 24.6 27 31.7
GIG:	$\varphi = 50.066^\circ\text{N}$, $\lambda = 18.459^\circ\text{E}$ $H = 19:02:51.2$, $M = 2.6$			NIE	$\Delta = 131\text{km}$ Pg eZ Sg eN	00 27 37.9 27 54.0
RAC	$\Delta = 19\text{km}$ Pg iZ Sg iN	19 02 55.5 D 02 58.9		KSP	$\Delta = 205\text{km}$ Pg eZ Sg eZ	00 27 49.3 28 13.7
OJC	$\Delta = 97\text{km}$ Pg eZ Sg eN	19 03 07.6 03 20.0		<u>OCT 28</u>		
NIE	$\Delta = 152\text{km}$ Pg eZ Sg eN	19 03 17.7 03 36.2			$\varphi = 50.36^\circ\text{N}$, $\lambda = 18.88^\circ\text{E}$ $H = 20:19:17.4$, $M = 2.3$	
KSP	$\Delta = 176\text{km}$ Pg eZ Sg eE	19 03 20.3 03 41.7		OJC	$\Delta = 67\text{km}$ Pg eZ Sg eE	20 19 29.2 19 37.8
<u>OCT 26</u>				NIE	$\Delta = 146\text{km}$ Pg eZ Sg eE	20 19 42.9 20 00.5
GIG:	$\varphi = 50.079^\circ\text{N}$, $\lambda = 19.124^\circ\text{E}$ $H = 03:50:21.0$, $M = 2.4$			KSP	$\Delta = 191\text{km}$ Pg eE Sg eN	20 19 49.3 20 11.5
OJC	$\Delta = 50\text{km}$ Pg eZ Sg eN	03 50 29.8 50 36.3		<u>OCT 29</u>		
NIE	$\Delta = 113\text{km}$ Pg eZ (Sg) eE	03 50 40.5 50 56.5		GIG:	$\varphi = 50.106^\circ\text{N}$, $\lambda = 19.167^\circ\text{E}$ $H = 03:34:16.8$, $M = 2.5$	
				OJC	$\Delta = 46\text{km}$ Pg eZ Sg eN	03 34 24.8 34 30.9

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NIE	$\Delta = 112\text{km}$				
	Pg eZ	03	34	36.2	
	Sg eN		34	51.7	
KSP	$\Delta = 220\text{km}$				
	Pg eE	03	34	53.5	
	Sg eE		35	18.7	
OCT 29					
GIG: $\varphi = 50.066^\circ\text{N}$, $\lambda = 18.461^\circ\text{E}$ $H = 03:57:24.1$, $M = 2.3$					
RAC	$\Delta = 19\text{km}$				
	Pg iZ	03	57	28.5 D	
	Sg eNE		57	32.0	
OJC	$\Delta = 97\text{km}$				
	Pg eZ	03	57	40.5	
	Sg eN		57	53.5	
NIE	$\Delta = 152\text{km}$				
	Pg eZ	03	57	50.6	
	Sg eN		58	09.2	
KSP	$\Delta = 176\text{km}$				
	Pn eZ	03	57	52.5	
	Sg eN		58	14.5	
OCT 29					
GIG: $\varphi = 50.255^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$ $H = 05:04:41.2$, $M = 2.7$					
RAC	$\Delta = 52\text{km}$				
	Pg eZ	05	04	50.9	
	Sg eNE		04	57.7	
OJC	$\Delta = 67\text{km}$				
	Pg eZ	05	04	52.9	
	Sg eN		05	01.4	
NIE	$\Delta = 140\text{km}$				
	Pg eZ	05	05	05.3	
	Sg eE		05	22.4	
KSP	$\Delta = 193\text{km}$				
	Pn eZ	05	05	12.3	
	Pg iZ		05	13.5	
	Sg eE		05	35.8	
KWP	$\Delta = 284\text{km}$				
	Pg eZ	05	05	31.4	
	Sg eNE		06	05.3	
OCT 31					
GIG: $\varphi = 50.256^\circ\text{N}$, $\lambda = 18.859^\circ\text{E}$ $H = 02:53:03.1$, $M = 2.1$					
OJC	$\Delta = 67\text{km}$				
	Pg eZ		02	53	14.9
	Sg eE			53	23.6
NIE	$\Delta = 140\text{km}$				
	Pg eZ		02	53	27.4
	Sg eE			53	45.3
KSP	$\Delta = 193\text{km}$				
	Pn eZ		02	53	34.5
	Sg eN			53	57.5
OCT 31					
GIG: $\varphi = 50.257^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$ $H = 11:33:23.6$, $M = 2.4$					
OJC	$\Delta = 67\text{km}$				
	Pg eZ		11	33	35.3
	Sg eE			33	43.7
NIE	$\Delta = 140\text{km}$				
	Pg eZ		11	33	47.7
	Sg eE			34	05.5
KSP	$\Delta = 193\text{km}$				
	Pn eZ		11	33	54.5
	Pg eZ			33	56.0
	Sg eN			34	18.9
OCT 31					
GIG: $\varphi = 50.362^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$ $H = 12:43:44.4$, $M = 2.3$					
OJC	$\Delta = 68\text{km}$				
	Pg eZ		12	43	56.5
	Sg eN			44	04.5
NIE	$\Delta = 148\text{km}$				
	Pg eZ		12	44	10.7
	Sg eE			44	27.9
KSP	$\Delta = 189\text{km}$				
	Pg Z		12	44	15.9
	Sg eN			44	38.6
NOV 1					
GIG: $\varphi = 50.212^\circ\text{N}$, $\lambda = 19.065^\circ\text{E}$ $H = 05:20:30.7$, $M = 2.1$					
OJC	$\Delta = 52\text{km}$				
	Pg eZ		05	20	39.6
	Sg eN			20	46.8

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				NOV 4			
NIE	$\Delta = 126\text{km}$			GIG:	$\varphi = 50.265^\circ\text{N}, \lambda = 18.904^\circ\text{E}$		
	Pg eZ	05 20 52.7			H = 11:57:29.6, M = 2.4		
	Sg eN	21 08.6		OJC	$\Delta = 64\text{km}$		
KSP	$\Delta = 208\text{km}$				Pg eZ	11 57 40.5	
	Pg eZ	05 21 05.5			Sg eE	57 49.2	
	Sg eN	21 30.4		NIE	$\Delta = 139\text{km}$		
NOV 2					Pg eZ	11 57 53.5	
	GIG:	$\varphi = 50.363^\circ\text{N}, \lambda = 18.865^\circ\text{E}$			Sg eN	58 11.4	
		H = 07:49:24.5, M = 2.3		KSP	$\Delta = 196\text{km}$		
OJC	$\Delta = 68\text{km}$				Pn eZ	11 58 01.0	
	Pg eZ	07 49 36.4			Sn eN	58 23.9	
	Sg eN	49 44.8		NOV 5			
NIE	$\Delta = 148\text{km}$				$\varphi = 50.24^\circ\text{N}, \lambda = 19.04^\circ\text{E}$		
	(Pg) eZ	07 49 50.6			H = 02:14:06.5, M = 2.0		
	Sg eE	50 08.0		OJC	$\Delta = 54\text{km}$		
KSP	$\Delta = 189\text{km}$				Pg eZ	02 14 15.9	
	Pg eZ	07 49 56.2			Sg eE	14 23.4	
	Sg eN	50 19.2		NIE	$\Delta = 130\text{km}, M = 1.8$		
NOV 2					Pg eZ	02 14 29.0	
	GIG:	$\varphi = 50.207^\circ\text{N}, \lambda = 19.071^\circ\text{E}$			Sg eN	14 45.5	
		H = 12:52:28.8, M = 2.3		KSP	$\Delta = 205\text{km}$		
OJC	$\Delta = 52\text{km}$				Pg eE	02 14 40.2	
	Pg eZ	12 52 37.6			Sg eE	15 05.3	
	Sg eE	52 44.4		NOV 5			
NIE	$\Delta = 125\text{km}$				GIG:	$\varphi = 50.066^\circ\text{N}, \lambda = 18.461^\circ\text{E}$	
	Pg eZ	12 52 50.6				H = 22:29:29.1, M = 2.3	
	Sg eE	53 07.0		RAC	$\Delta = 19\text{km}$		
KSP	$\Delta = 209\text{km}$				Pg iZ	22 29 33.3 D	
	Pg eE	12 53 02.9			Sg eNE	29 36.7	
	Sg eN	53 27.8		OJC	$\Delta = 97\text{km}$		
NOV 3					Pg eZ	22 29 45.4	
	GIG:	$\varphi = 50.363^\circ\text{N}, \lambda = 18.865^\circ\text{E}$			(Sg) eN	29 58.9	
		H = 10:34:11.4, M = 2.3		NIE	$\Delta = 152\text{km}$		
OJC	$\Delta = 68\text{km}$				Pg eZ	22 29 55.5	
	Pg eZ	10 34 23.6			Sg eNE	30 14.1	
	Sg eN	34 31.5		KSP	$\Delta = 176\text{km}$		
NIE	$\Delta = 148\text{km}$				Pg eZ	22 29 58.5	
	Pg eZ	10 34 37.3			Sg eE	30 19.9	
	(Sg) eN	34 53.8		NOV 7			
KSP	$\Delta = 190\text{km}$				GIG:	$\varphi = 50.234^\circ\text{N}, \lambda = 19.041^\circ\text{E}$	
	Pg eZ	10 34 43.0				H = 11:26:58.1, M = 2.2	
	Sg eN	35 05.9		OJC	$\Delta = 54\text{km}$		
					Pg eZ	11 27 07.8	
					Sg eE	27 14.9	

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KSP	$\Delta = 206\text{km}$ Pg eN Sg eN	11 27 31.4 27 57.3	
NOV 7			
	$\varphi = 50.28^\circ\text{N}$, $\lambda = 18.96^\circ\text{E}$ $H = 19:26:10.3$, $M = 2.0$		
OJC	$\Delta = 60\text{km}$ Pg eZ Sg eN	19 26 21.2 26 28.9	
NIE	$\Delta = 137\text{km}$ Pg eZ Sg eE	19 26 34.5 26 51.1	
KSP	$\Delta = 199\text{km}$ Pg eE Sg eN	19 26 43.3 27 06.8	
NOV 7			
	$\varphi = 50.10^\circ\text{N}$, $\lambda = 18.46^\circ\text{E}$ $H = 23:16:44.6$, $M = 2.1$		
RAC	$\Delta = 19\text{km}$ Pg iZ Sg eNE	23 16 48.9 D 16 52.2	
OJC	$\Delta = 96\text{km}$ Pg eZ Sg eN	23 17 01.2 17 13.3	
NIE	$\Delta = 153\text{km}$ Pg eZ Sg eN	23 17 11.1 17 30.2	
KSP	$\Delta = 175\text{km}$ Pg eZ Sg eE	23 17 13.5 17 34.5	
NOV 8			
GIG:	$\varphi = 50.364^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$ $H = 21:34:47.8$, $M = 2.2$		
OJC	$\Delta = 68\text{km}$ Pg eZ Sg eN	21 34 59.5 35 08.5	
NIE	$\Delta = 148\text{km}$ Pg eZ (Sg) eE	21 35 13.7 35 30.8	
KSP	$\Delta = 189\text{km}$ Pg eE Sg eE	21 35 18.7 35 42.4	

NOV 8			
GIG:	$\varphi = 50.241^\circ\text{N}$, $\lambda = 18.907^\circ\text{E}$ $H = 21:52:49.6$, $M = 2.2$		
OJC	$\Delta = 64\text{km}$ Pg eZ Sg eN	21 53 00.8 53 09.1	
NIE	$\Delta = 137\text{km}$ Pg eZ Sg eN	21 53 13.3 53 31.3	
KSP	$\Delta = 197\text{km}$ Pg eZ Sg eN	21 53 22.2 53 45.0	
NOV 9			
GIG:	$\varphi = 50.364^\circ\text{N}$, $\lambda = 18.864^\circ\text{E}$ $H = 17:46:08.1$, $M = 2.4$		
OJC	$\Delta = 69\text{km}$ Pg eZ Sg eN	17 46 20.3 46 28.7	
NIE	$\Delta = 148\text{km}$ Pg eZ Sg eE	17 46 34.2 46 51.6	
KSP	$\Delta = 189\text{km}$ Pg eZ Sg eN	17 46 39.4 47 01.7	
NOV 10			
GIG:	$\varphi = 50.259^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$ $H = 11:18:55.7$, $M = 2.5$		
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eE	11 19 07.0 19 15.7	
NIE	$\Delta = 141\text{km}$ Pg eZ Sg eE	11 19 21.0 19 38.7	
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	11 19 27.4 19 50.4	
NOV 10			
	$\varphi = 50.28^\circ\text{N}$, $\lambda = 18.91^\circ\text{E}$ $H = 15:58:47.5$, $M = 2.2$		
OJC	$\Delta = 64\text{km}$ Pg eZ Sg eE	15 58 58.7 59 06.7	
NIE	$\Delta = 139\text{km}$ Pg eZ Sg eE	15 59 11.5 59 28.7	

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KSP	$\Delta = 196\text{km}$ Pg eE Sg eN	15 59 20.5 59 43.3
<u>NOV 10</u>		
GIG:	$\varphi = 50.234^\circ\text{N}$, $\lambda = 19.040^\circ\text{E}$ $H = 18:40:04.6$, $M = 2.2$	
OJC	$\Delta = 54\text{km}$ Pg eZ Sg eE	18 40 14.3 40 21.3
NIE	$\Delta = 130\text{km}$ Pg eZ Sg eN	18 40 27.3 40 43.9
KSP	$\Delta = 206\text{km}$ Pg eN (Sn) eE	18 40 38.7 41 00.9
<u>NOV 11</u>		
GIG:	$\varphi = 50.255^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$ $H = 01:24:29.4$, $M = 2.6$	
RAC	$\Delta = 52\text{km}$ Pg eZ Sg eNE	01 24 38.9 24 45.9
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eNE	01 24 41.2 24 49.6
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eN	01 24 53.7 25 10.9
KSP	$\Delta = 193\text{km}$ Pg eE Sg eE	01 25 01.7 25 24.1
KWP	$\Delta = 284\text{km}$ Pg eZ Sg eNE	01 25 19.2 25 59.6
<u>NOV 11</u>		
GIG:	$\varphi = 50.064^\circ\text{N}$, $\lambda = 18.459^\circ\text{E}$ $H = 03:30:52.6$, $M = 2.2$	
RAC	$\Delta = 19\text{km}$ Pg eZ Sg eNE	03 30 56.8 31 00.0
OJC	$\Delta = 97\text{km}$ Pg eZ Sg eE	03 31 09.0 31 22.1
NIE	$\Delta = 152\text{km}$ Pg eZ Sg eN	03 31 19.0 31 38.8

KSP	$\Delta = 176\text{km}$ Pg eZ Sg eZ	03 31 22.5 31 43.0
<u>NOV 13</u>		
GIG:	$\varphi = 50.215^\circ\text{N}$, $\lambda = 19.067^\circ\text{E}$ $H = 13:23:56.5$, $M = 2.4$	
OJC	$\Delta = 52\text{km}$ Pg eZ Sg eN	13 24 05.7 24 12.5
KSP	$\Delta = 209\text{km}$ Pg eE Sg eN	13 24 30.8 24 55.4
<u>NOV 13</u>		
GIG:	$\varphi = 49.960^\circ\text{N}$, $\lambda = 18.570^\circ\text{E}$ $H = 14:52:01.1$, $M = 2.7$	
RAC	$\Delta = 30\text{km}$ Pg eZ Sg eNE	14 52 08.1 52 12.7
OJC	$\Delta = 92\text{km}$ Pg eZ Sg eEN	14 52 17.5 52 29.2
NIE	$\Delta = 140\text{km}$ Pg eZ	14 52 26.3
KSP	$\Delta = 189\text{km}$ Pg eZ Sg eN	14 52 33.0 52 54.9
<u>NOV 14</u>		
GIG:	$\varphi = 50.229^\circ\text{N}$, $\lambda = 18.815^\circ\text{E}$ $H = 15:04:36.9$, $M = 2.4$	
OJC	$\Delta = 70\text{km}$ Pg eZ Sg eN	15 04 49.0 04 58.1
NIE	$\Delta = 141\text{km}$ Pg eZ Sg eN	15 05 00.9 05 19.0
KSP	$\Delta = 191\text{km}$ Pg eZ Sg eN	15 05 08.4 05 31.3
<u>NOV 14</u>		
GIG:	$\varphi = 50.255^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$ $H = 19:36:40.4$, $M = 2.3$	
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eE	19 36 52.1 37 00.6

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NIE	$\Delta = 140\text{km}$		
Pg	eZ	19 37 04.3	
Sg	eE	37 22.1	
KSP	$\Delta = 193\text{km}$		
Pg	eZ	19 37 12.7	
Sg	eN	37 35.2	
NOV 14			
GIG:	$\varphi = 50.364^\circ\text{N}, \lambda = 18.864^\circ\text{E}$ $H = 20:57:08.8, M = 2.4$		
OJC	$\Delta = 69\text{km}$		
Pg	eZ	20 57 20.9	
Sg	eN	57 29.6	
NIE	$\Delta = 148\text{km}$		
Pg	eZ	20 57 34.4	
Sg	eN	57 52.3	
NOV 16			
GIG:	$\varphi = 50.239^\circ\text{N}, \lambda = 18.980^\circ\text{E}$ $H = 17:20:53.9, M = 2.6$		
OJC	$\Delta = 59\text{km}$		
Pg	eZ	17 21 04.4	
Sg	eE	21 11.7	
RAC	$\Delta = 58\text{km}$		
Pg	eZ	17 21 04.8	
Sg	eNE	21 12.5	
NIE	$\Delta = 132\text{km}$		
Pg	eZ	17 21 17.0	
Sg	eE	21 33.6	
KSP	$\Delta = 202\text{km}$		
Pn	eZ	17 21 25.1	
Pg	iZ	21 27.6	
Sg	eN	21 51.6	
KWP	$\Delta = 275\text{km}$		
Pn	eZ	17 21 37.0	
Pg	eZ	21 43.2	
Sg	eNE	22 20.1	
NOV 16			
GIG:	$\varphi = 50.236^\circ\text{N}, \lambda = 18.931^\circ\text{E}$ $H = 17:59:24.2, M = 2.3$		
RAC	$\Delta = 56\text{km}$		
Pg	eZ	17 59 34.6	
Sg	eNE	59 42.1	
OJC	$\Delta = 62\text{km}$		
Pg	eZ	17 59 35.0	
Sg	eE	59 43.1	

NIE	$\Delta = 135\text{km}$		
Pg	eZ	17 59 47.7	
Sg	eN	18 00 05.4	
KSP	$\Delta = 198\text{km}$		
Pg	eZ	17 59 57.2	
Sg	eN	18 00 21.1	
NOV 16			
GIG:	$\varphi = 50.266^\circ\text{N}, \lambda = 18.882^\circ\text{E}$ $H = 19:39:48.6, M = 2.4$		
RAC	$\Delta = 54\text{km}$		
Pg	eZ	19 39 58.2	
Sg	eNE	40 05.3	
OJC	$\Delta = 65\text{km}$		
Pg	eZ	19 40 00.2	
Sg	eE	40 08.6	
NIE	$\Delta = 140\text{km}$		
Pg	eZ	19 40 12.7	
Sg	eN	40 30.1	
KSP	$\Delta = 194\text{km}$		
Pg	eZ	19 40 21.1	
Sg	eN	40 44.0	
NOV 16			
GIG:	$\varphi = 50.261^\circ\text{N}, \lambda = 18.880^\circ\text{E}$ $H = 21:52:34.9, M = 2.0$		
OJC	$\Delta = 65\text{km}$		
Pg	eZ	21 52 46.6	
Sg	eE	52 54.9	
NIE	$\Delta = 140\text{km}$		
Pg	eZ	21 52 59.3	
Sg	eE	53 16.8	
KSP	$\Delta = 194\text{km}$		
Pg	eZ	21 53 07.6	
Sg	eN	53 30.8	
NOV 17			
GIG:	$\varphi = 50.255^\circ\text{N}, \lambda = 18.860^\circ\text{E}$ $H = 16:44:02.7, M = 2.6$		
RAC	$\Delta = 51\text{km}$		
Pg	eZ	16 44 11.7	
Sg	eNE	44 18.2	
OJC	$\Delta = 67\text{km}$		
Pg	eZ	16 44 14.6	
Sg	eE	44 23.0	
NIE	$\Delta = 140\text{km}$		
Pg	eZ	16 44 27.0	
Sg	eE	44 44.8	

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KSP	$\Delta = 193\text{km}$			
Pn	eZ	16	44	34.2
Pg	iZ		44	35.1
Sg	eN		44	57.5
NOV 17				
GIG:	$\varphi = 50.232^\circ\text{N}$, $\lambda = 19.042^\circ\text{E}$			
	$H = 18:24:27.7$, $M = 2.2$			
OJC	$\Delta = 54\text{km}$			
Pg	eZ	18	24	37.1
Sg	eE		24	44.2
NIE	$\Delta = 129\text{km}$			
Pg	eZ	18	24	50.2
Sg	eN		25	06.9
KSP	$\Delta = 206\text{km}$			
Pg	eZ	18	25	01.2
Sg	eZ		25	26.3
NOV 18				
GIG:	$\varphi = 50.363^\circ\text{N}$, $\lambda = 18.865^\circ\text{E}$			
	$H = 05:28:10.1$, $M = 2.2$			
OJC	$\Delta = 68\text{km}$			
Pg	eZ	05	28	22.5
Sg	eE		28	31.0
NIE	$\Delta = 148\text{km}$			
Pg	eZ	05	28	36.4
Sg	eN		28	54.3
KSP	$\Delta = 189\text{km}$			
Pg	eZ	05	28	41.6
Sg	eN		29	03.9
NOV 18				
GIG:	$\varphi = 50.234^\circ\text{N}$, $\lambda = 19.043^\circ\text{E}$			
	$H = 15:39:41.4$, $M = 2.5$			
OJC	$\Delta = 54\text{km}$			
Pg	eZ	15	39	50.9
Sg	eE		39	57.8
NIE	$\Delta = 129\text{km}$			
Pg	eZ	15	40	03.8
Sg	eN		40	20.4
KSP	$\Delta = 206\text{km}$			
Pg	eZ	15	40	16.0
Sg	eE		40	39.4

NOV 19				
GIG:	$\varphi = 50.066^\circ\text{N}$, $\lambda = 18.460^\circ\text{E}$			
	$H = 01:08:59.8$, $M = 2.3$			
RAC	$\Delta = 19\text{km}$			
Pg	iZ	01	09	04.0 D
Sg	eNE		09	07.3
OJC	$\Delta = 97\text{km}$			
Pg	eZ	01	09	16.1
Sg	eN		09	29.0
NIE	$\Delta = 152\text{km}$			
Pg	eZ	01	09	25.8
Sg	eN		09	45.3
KSP	$\Delta = 176\text{km}$			
Sg	eZ	01	09	50.4
NOV 19				
GIG:	$\varphi = 50.245^\circ\text{N}$, $\lambda = 18.982^\circ\text{E}$			
	$H = 01:36:32.6$, $M = 2.3$			
OJC	$\Delta = 58\text{km}$			
Pg	eZ	01	36	42.8
Sg	iN		36	50.5
RAC	$\Delta = 59\text{km}$			
Pg	eZ	01	36	43.3
Sg	eNE		36	51.2
NIE	$\Delta = 133\text{km}$			
Pg	eZ	01	36	55.8
Sg	eE		37	12.3
KSP	$\Delta = 201\text{km}$			
Pg	eE	01	37	05.8
Sg	eE		37	30.2
NOV 19				
GIG:	$\varphi = 50.234^\circ\text{N}$, $\lambda = 19.022^\circ\text{E}$			
	$H = 03:11:40.9$, $M = 2.3$			
OJC	$\Delta = 56\text{km}$			
Pg	iZ	03	11	50.9
Sg	iE		11	58.6
RAC	$\Delta = 61\text{km}$			
Pg	eZ	03	11	51.5
Sg	eNE		11	59.7
NIE	$\Delta = 130\text{km}$			
Pg	eZ	03	12	03.9
Sg	eN		12	20.5
KSP	$\Delta = 204\text{km}$			
Pg	eZ	03	12	14.3
Sg	eE		12	39.0

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NOV 22

GIG: $\varphi = 50.207^\circ\text{N}$, $\lambda = 19.072^\circ\text{E}$
H = 12:36:54.8, M = 2.3

OJC $\Delta = 51\text{km}$
Pg eZ 12 37 04.0
Sg eE 37 10.7

KSP $\Delta = 209\text{km}$
Pg eE 12 37 29.3
Sg eE 37 54.2

NOV 22

GIG: $\varphi = 50.266^\circ\text{N}$, $\lambda = 18.886^\circ\text{E}$
H = 18:51:23.3, M = 2.4

OJC $\Delta = 66\text{km}$
Pg eZ 18 51 34.9
Sg eN 51 43.4

NIE $\Delta = 139\text{km}$
Pg eZ 18 51 47.5
Sg eE 52 05.1

KSP $\Delta = 194\text{km}$
Pg iZ 18 51 55.9 C
Sg eE 52 18.3

KWP $\Delta = 282\text{km}$
Pg eZ 18 52 13.3

NOV 23

GIG: $\varphi = 50.234^\circ\text{N}$, $\lambda = 19.043^\circ\text{E}$
H = 11:29:42.5, M = 2.4

OJC $\Delta = 54\text{km}$
Pg eZ 11 29 52.4
Sg eN 29 59.7

NIE $\Delta = 129\text{km}$
Pg eZ 11 30 05.4
Sg eE 30 20.8

KSP $\Delta = 206\text{km}$
Pg eE 11 30 17.0
Sg eN 30 40.7

NOV 23

$\varphi = 49.94^\circ\text{N}$, $\lambda = 18.53^\circ\text{E}$
H = 11:58:23.2, M = 2.3

OJC $\Delta = 96\text{km}$
Pg eZ 11 58 40.1
Sg eN 58 52.4

NIE $\Delta = 141\text{km}$
Pg eZ 11 58 46.9
Sg eE 59 05.3

KSP $\Delta = 188\text{km}$
Pg eZ 11 58 54.3
Sg eE 59 17.0

NOV 24

$\varphi = 50.26^\circ\text{N}$, $\lambda = 18.94^\circ\text{E}$
H = 02:06:21.5, M = 2.2

RAC $\Delta = 57\text{km}$
Pg eZ 02 06 31.7
Sg eNE 06 39.3

OJC $\Delta = 62\text{km}$
Pg eZ 02 06 32.3
Sg eE 06 40.6

NIE $\Delta = 137\text{km}$
Pg eZ 02 06 45.4
Sg eE 07 02.6

KSP $\Delta = 198\text{km}$
Pg eZ 02 06 54.5
Sg eN 07 17.4

NOV 24

GIG: $\varphi = 50.265^\circ\text{N}$, $\lambda = 18.863^\circ\text{E}$
H = 02:16:15.2, M = 2.0

OJC $\Delta = 67\text{km}$
Pg eZ 02 16 27.5
(Sg) eE 16 34.7

NIE $\Delta = 141\text{km}$
Pg eZ 02 16 39.4
Sg eE 16 57.1

KSP $\Delta = 193\text{km}$
Pg eZ 02 16 47.2
Sg eE 17 10.0

NOV 24

GIG: $\varphi = 50.255^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$
H = 15:38:49.3, M = 2.3

OJC $\Delta = 67\text{km}$
Pg eZ 15 39 01.1
Sg eE 39 09.3

NIE $\Delta = 140\text{km}$
(Pg) eZ 15 39 14.1
Sg eN 39 30.9

KSP $\Delta = 193\text{km}$
Pg eZ 15 39 21.3
Sg eN 39 43.6

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NOV 25

GIG: $\varphi = 50.264^{\circ}\text{N}$, $\lambda = 18.862^{\circ}\text{E}$
H = 00:15:15.8, **M = 2.8**

RAC	$\Delta = 52\text{km}$			
Pg	eZ	00	15	25.4
Sg	eNE		15	32.5
OJC	$\Delta = 67\text{km}$			
Pg	iZ	00	15	27.5 D
Sg	iN		15	36.1
NIE	$\Delta = 141\text{km}$			
Pg	eZ	00	15	39.7
Sg	eN		15	57.5
KSP	$\Delta = 193\text{km}$			
Pn	eZ	00	15	46.2
Pg	iZ		15	48.1 D
Sg	eE		16	11.2
KWP	$\Delta = 284\text{km}$			
Pg	eZ	00	16	05.1

NOV 25

GIG: $\varphi = 50.213^{\circ}\text{N}$, $\lambda = 19.064^{\circ}\text{E}$
H = 16:45:12.6, **M = 2.2**

OJC	$\Delta = 52\text{km}$			
Pg	eZ	16	45	21.6
Sg	eE		45	28.0
NIE	$\Delta = 126\text{km}$			
Pg	eZ	16	45	35.2
Sg	eE		45	50.8
KSP	$\Delta = 208\text{km}$			
Pg	eZ	16	45	47.0
Sg	eE		46	11.8

NOV 26

GIG: $\varphi = 50.099^{\circ}\text{N}$, $\lambda = 19.160^{\circ}\text{E}$
H = 01:02:44.6, **M = 2.2**

OJC	$\Delta = 47\text{km}$			
Pg	eZ	01	02	52.7
Sg	eN		02	58.8
NIE	$\Delta = 112\text{km}$			
Pg	eZ	01	03	03.6
(Sg)	eE		03	19.3
KSP	$\Delta = 220\text{km}$			
Pg	eZ	01	03	21.8
Sg	eN		03	46.4

NOV 26

GIG: $\varphi = 50.066^{\circ}\text{N}$, $\lambda = 18.460^{\circ}\text{E}$
H = 01:46:41.5, **M = 2.2**

RAC	$\Delta = 19\text{km}$			
Pg	iZ	01	46	45.7 D
Sg	eNE		46	49.0
OJC	$\Delta = 97\text{km}$			
Pg	eZ	01	46	58.3
Sg	eN		47	10.8
NIE	$\Delta = 152\text{km}$			
Pg	eZ	01	47	08.0
Sg	eE		47	26.6

NOV 26

$\varphi = 50.31^{\circ}\text{N}$, $\lambda = 18.82^{\circ}\text{E}$
H = 15:15:22.4, **M = 2.2**

OJC	$\Delta = 70\text{km}$			
Pg	eZ	15	15	34.6
Sg	eE		15	42.9
NIE	$\Delta = 146\text{km}$			
Pg	eZ	15	15	47.7
(Sg)	eE		16	04.8
KSP	$\Delta = 189\text{km}$			
Pn	eE	15	15	51.6
Pg	eE		15	54.7
Sg	eN		16	16.4

NOV 27

GIG: $\varphi = 50.208^{\circ}\text{N}$, $\lambda = 19.071^{\circ}\text{E}$
H = 14:41:54.7, **M = 2.2**

OJC	$\Delta = 52\text{km}$			
Pg	eZ	14	42	04.1
Sg	eE		42	10.9
NIE	$\Delta = 126\text{km}$			
Pg	eZ	14	42	17.3
Sg	eN		42	33.2
KSP	$\Delta = 209\text{km}$			
Pg	eZ	14	42	28.3
Sg	eE		42	54.3

NOV 27

GIG: $\varphi = 50.266^{\circ}\text{N}$, $\lambda = 18.882^{\circ}\text{E}$
H = 19:07:39.2, **M = 2.5**

RAC	$\Delta = 52\text{km}$			
Pg	eZ	19	07	48.9
Sg	eNE		07	55.5

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OJC	$\Delta = 66\text{km}$ Pg eZ Sg eE	19 07 50.9 07 59.3		KSP	$\Delta = 206\text{km}$ Pg eZ Sg eE	18 32 14.1 32 38.9
NIE	$\Delta = 139\text{km}$ Pg eZ Sg eN	19 08 03.5 08 21.1		NOV 29 GIG:	$\varphi = 50.232^\circ\text{N}$, $\lambda = 19.042^\circ\text{E}$ $H = 21:30:00.0$, $M = 2.2$	
KSP	$\Delta = 194\text{km}$ Pg eZ Sg eN	19 08 11.7 08 34.7		OJC	$\Delta = 54\text{km}$ Pg eZ Sg eE	21 30 09.1 30 16.3
NOV 27 GIG:	$\varphi = 50.037^\circ\text{N}$, $\lambda = 18.443^\circ\text{E}$ $H = 23:13:55.6$, $M = 2.5$			NIE	$\Delta = 129\text{km}$ Pg eZ Sg eN	21 30 22.3 30 38.9
RAC	$\Delta = 19\text{km}$ Pg iZ Sg eNE	23 14 00.0 C 14 03.1		KSP	$\Delta = 206\text{km}$ Pg eZ Sg eN	21 30 33.9 30 58.0
OJC	$\Delta = 99\text{km}$ Pg eZ Sg eE	23 14 12.5 14 24.5		NOV 30 GIG:	$\varphi = 50.260^\circ\text{N}$, $\lambda = 18.895^\circ\text{E}$ $H = 23:45:53.8$, $M = 2.1$	
NIE	$\Delta = 151\text{km}$ Pg eZ Sg eE	23 14 22.1 14 40.8		OJC	$\Delta = 64\text{km}$ Pg eZ Sg eE	23 46 04.7 46 13.1
KSP	$\Delta = 177\text{km}$ Pn eZ Sg eE	23 14 24.1 14 45.7		NIE	$\Delta = 138\text{km}$ Pg eZ Sg eE	23 46 17.4 46 35.3
NOV 28 GIG:	$\varphi = 50.255^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$ $H = 15:49:28.5$, $M = 2.4$			KSP	$\Delta = 195\text{km}$ Pg eZ Sn eZ Sg eZ	23 46 26.0 46 48.0 46 49.7
OJC	$\Delta = 67\text{km}$ Pg eZ Sg iE	15 49 40.3 49 48.7		DEC 1 GIG:	$\varphi = 50.255^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$ $H = 19:09:10.3$, $M = 2.8$	
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eE	15 49 52.7 50 10.8		RAC	$\Delta = 52\text{km}$ Pg eZ Sg eNE	19 09 19.9 09 26.9
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	15 50 00.7 50 23.4		OJC	$\Delta = 67\text{km}$ Pg eZ Sg eN	19 09 21.9 09 30.2
NOV 28 GIG:	$\varphi = 50.234^\circ\text{N}$, $\lambda = 19.042^\circ\text{E}$ $H = 18:31:40.2$, $M = 2.1$			NIE	$\Delta = 140\text{km}$ Pg eZ Sg eN	19 09 34.3 09 51.7
OJC	$\Delta = 54\text{km}$ Pg eZ Sg eE	18 31 49.4 31 56.4		KSP	$\Delta = 193\text{km}$ Pn eZ Pg iZ Sg eE	19 09 40.6 09 42.5 10 04.7
NIE	$\Delta = 129\text{km}$ Pg eZ Sg eE	18 32 02.6 32 19.1				

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KWP	$\Delta = 284\text{km}$ Pn eZ 19 09 58.2 Sg eNE 10 38.0	OJC	$\Delta = 68\text{km}$ Pg eZ 10 12 25.5 Sg eN 12 33.6
DEC 1		NIE	$\Delta = 144\text{km}$ Pg eZ 10 12 37.9 Sg eN 12 55.6
GIG:	$\varphi = 50.213^\circ\text{N}$, $\lambda = 19.067^\circ\text{E}$ $H = 21:41:31.5$, $M = 2.1$	KSP	$\Delta = 190\text{km}$ Pn eZ 10 12 42.9 Pg iZ 12 45.3 Sg eN 13 08.3
OJC	$\Delta = 52\text{km}$ Pg eZ 21 41 40.6 Sg eN 41 47.8	DEC 5	
NIE	$\Delta = 126\text{km}$ Pg eZ 21 41 54.2 Sg eE 42 09.8	GIG:	$\varphi = 50.205^\circ\text{N}$, $\lambda = 19.072^\circ\text{E}$ $H = 16:22:45.0$, $M = 2.2$
KSP	$\Delta = 208\text{km}$ Pg eZ 21 42 06.0 Sg eZ 42 30.4	OJC	$\Delta = 51\text{km}$ Pg iZ 16 22 53.5 Sg eE 23 00.4
DEC 1		NIE	$\Delta = 125\text{km}$ Pg eZ 16 23 07.1 Sg eN 23 23.6
GIG:	$\varphi = 50.256^\circ\text{N}$, $\lambda = 18.859^\circ\text{E}$ $H = 21:53:43.9$, $M = 2.3$	KSP	$\Delta = 210\text{km}$ Pg eZ 16 23 20.3 (Sg) eN 23 46.1
OJC	$\Delta = 67\text{km}$ Pg eZ 21 53 55.7 Sg eE 54 04.3	DEC 6	
NIE	$\Delta = 140\text{km}$ Pg eZ 21 54 08.0 Sg eE 54 25.6	GIG:	$\varphi = 50.255^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$ $H = 04:52:25.2$, $M = 2.1$
KSP	$\Delta = 193\text{km}$ Pg eZ 21 54 15.9 Sg eN 54 38.3	OJC	$\Delta = 67\text{km}$ Pg eZ 04 52 37.6 (Sg) eN 52 44.3
DEC 4		NIE	$\Delta = 140\text{km}$ Pg eZ 04 52 50.1 Sg eE 53 07.3
GIG:	$\varphi = 50.257^\circ\text{N}$, $\lambda = 18.903^\circ\text{E}$ $H = 09:45:40.3$, $M = 2.1$	KSP	$\Delta = 193\text{km}$ Pg eZ 04 52 57.7 Sg eN 53 20.2
OJC	$\Delta = 64\text{km}$ Pg eZ 09 45 51.5 Sg eE 45 59.7	DEC 6	
NIE	$\Delta = 138\text{km}$ Pg eZ 09 46 04.1 Sg eN 46 21.6	GIG:	$\varphi = 50.238^\circ\text{N}$, $\lambda = 18.930^\circ\text{E}$ $H = 10:11:32.3$, $M = 2.1$
KSP	$\Delta = 196\text{km}$ Pg eZ 09 46 12.5 Sg eZ 46 35.6	OJC	$\Delta = 62\text{km}$ Pg eZ 10 11 43.1 Sg eE 11 51.1
DEC 4		NIE	$\Delta = 136\text{km}$ Pg eZ 10 11 56.1 Sg eE 12 13.2
GIG:	$\varphi = 50.287^\circ\text{N}$, $\lambda = 18.839^\circ\text{E}$ $H = 10:12:13.3$, $M = 2.6$		
RAC	$\Delta = 52\text{km}$ Pg eZ 10 12 23.1 Sg eNE 12 29.7		

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KSP	$\Delta = 198\text{km}$ Pg eZ (Sg) eN	10 12 05.3 12 27.8	
DEC 7	GIG:	$\varphi = 50.265^\circ\text{N}, \lambda = 18.881^\circ\text{E}$ $H = 15:56:20.6, M = 2.6$	
OJC	$\Delta = 66\text{km}$ Pg eZ Sg eE	15 56 32.0 56 40.5	
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eN	15 56 44.6 57 02.0	
KSP	$\Delta = 194\text{km}$ Pg iZ Sg eN	15 56 52.8 C 57 15.9	
DEC 8	GIG:	$\varphi = 50.236^\circ\text{N}, \lambda = 18.931^\circ\text{E}$ $H = 11:59:20.6, M = 2.2$	
OJC	$\Delta = 62\text{km}$ Pg eZ Sg eE	11 59 31.5 59 39.7	
NIE	$\Delta = 135\text{km}$ Pg eZ Sg eE	11 59 44.1 12 00 00.8	
KSP	$\Delta = 198\text{km}$ Pg eE Sg eN	11 59 53.3 12 00 17.1	
DEC 9	GIG:	$\varphi = 50.255^\circ\text{N}, \lambda = 18.860^\circ\text{E}$ $H = 19:12:48.2, M = 2.6$	
RAC	$\Delta = 52\text{km}$ Pg eZ Sg eNE	19 12 58.0 13 04.8	
OJC	$\Delta = 66\text{km}$ Pg eZ Sg eE	19 12 59.7 13 08.5	
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eE	19 13 12.0 13 29.9	
KSP	$\Delta = 193\text{km}$ Pg eZ Sg eN	19 13 20.4 13 43.3	
DEC 10	GIG:	$\varphi = 50.255^\circ\text{N}, \lambda = 18.860^\circ\text{E}$ $H = 04:04:50.9, M = 2.4$	
OJC	$\Delta = 67\text{km}$ Pg eZ Sg eE	04 05 03.1 05 11.1	
NIE	$\Delta = 140\text{km}$ Pg eZ Sg eE	04 05 15.2 05 31.8	
KSP	$\Delta = 193\text{km}$ Pg eE Sg eN	04 05 23.2 05 45.8	
DEC 13	GIG:	$\varphi = 50.266^\circ\text{N}, \lambda = 18.882^\circ\text{E}$ $H = 05:00:54.2, M = 2.2$	
OJC	$\Delta = 66\text{km}$ Pg eZ Sg eN	05 01 05.5 01 14.4	
NIE	$\Delta = 139\text{km}$ Pg eZ Sg eN	05 01 18.3 01 35.4	
KSP	$\Delta = 194\text{km}$ Pn eZ Pg eZ Sg eN	05 01 25.5 01 26.4 01 49.4	
DEC 15	GIG:	$\varphi = 50.274^\circ\text{N}, \lambda = 18.828^\circ\text{E}$ $H = 00:51:08.2, M = 2.1$	
OJC	$\Delta = 70\text{km}$ Pg eZ Sg eN	00 51 20.5 51 29.6	
NIE	$\Delta = 144\text{km}$ Pg eZ Sg eE	00 51 32.6 51 50.4	
KSP	$\Delta = 190\text{km}$ Pn eZ Pg iZ Sg eN	00 51 37.8 51 39.6 52 02.6	
DEC 15	GIG:	$\varphi = 50.274^\circ\text{N}, \lambda = 19.266^\circ\text{E}$ $H = 04:04:16.4, M = 2.5$	
OJC	$\Delta = 38\text{km}$ Pg iZ Sg eN	04 04 23.0 D 04 28.3	

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NIE	$\Delta = 121\text{km}$ Pg eZ Sg eN	04 04 36.9 04 52.5
KSP	$\Delta = 220\text{km}$ Pg eE Sg eN	04 04 53.1 05 18.3
DEC 15		
GIG: $\varphi = 50.207^\circ\text{N}$, $\lambda = 19.072^\circ\text{E}$ H = 04:37:03.8, M = 2.3		
OJC	$\Delta = 52\text{km}$ Pg eZ Sg eE	04 37 12.8 37 19.6
NIE	$\Delta = 126\text{km}$ Pg eZ Sg eE	04 37 25.6 37 41.8
KSP	$\Delta = 209\text{km}$ Pg eZ Sg eN	04 37 38.1 38 04.1
DEC 15		
GIG: $\varphi = 50.238^\circ\text{N}$, $\lambda = 18.931^\circ\text{E}$ H = 12:07:25.5, M = 2.2		
OJC	$\Delta = 62\text{km}$ Pg eZ Sg eE	12 07 35.8 07 43.9
NIE	$\Delta = 135\text{km}$ Pg eZ Sg eE	12 07 49.3 08 06.2
KSP	$\Delta = 198\text{km}$ Pg eZ Sg eZ	12 07 57.9 08 22.1
DEC 16		
$\varphi = 50.28^\circ\text{N}$, $\lambda = 18.90^\circ\text{E}$ H = 05:49:05.9, M = 2.1		
OJC	$\Delta = 64\text{km}$ Pg eZ Sg eE	05 49 17.8 49 25.7
NIE	$\Delta = 139\text{km}$ Pg eZ Sg eN	05 49 29.7 49 47.4
KSP	$\Delta = 195\text{km}$ Pg eZ Sg eE	05 49 37.6 50 01.3

DEC 16		
GIG: $\varphi = 50.266^\circ\text{N}$, $\lambda = 18.882^\circ\text{E}$ H = 12:13:37.1, M = 2.2		
OJC	$\Delta = 66\text{km}$ Pg eZ Sg eN	12 13 48.5 13 57.0
NIE	$\Delta = 139\text{km}$ Pg eZ Sg eE	12 14 00.9 14 18.8
KSP	$\Delta = 194\text{km}$ Pg eZ Sg eN	12 14 09.3 14 32.4
DEC 18		
GIG: $\varphi = 50.238^\circ\text{N}$, $\lambda = 19.071^\circ\text{E}$ H = 08:32:31.0, M = 2.2		
OJC	$\Delta = 52\text{km}$ Pg eZ Sg eN	08 32 39.9 32 47.4
NIE	$\Delta = 128\text{km}$ Pg eZ Sg eN	08 32 53.3 33 09.6
KSP	$\Delta = 208\text{km}$ Pg eZ Sg eN	08 33 04.5 33 29.5
DEC 19		
GIG: $\varphi = 50.271^\circ\text{N}$, $\lambda = 19.262^\circ\text{E}$ H = 02:32:29.1, M = 2.9		
OJC	$\Delta = 39\text{km}$ Pg iZ Sg eN	02 32 36.0 D 32 41.4
RAC	$\Delta = 78\text{km}$ Pg eZ Sg eNE	02 32 42.8 32 53.3
NIE	$\Delta = 121\text{km}$ Pg eZ Sg eE	02 32 49.9 33 06.5
KSP	$\Delta = 219\text{km}$ Pn eZ Pg eZ Sg eN	02 33 03.0 33 05.8 33 31.4
KWP	$\Delta = 257\text{km}$ Pn eZ Pg eZ Sn eNE Sg eNE	02 33 11.3 33 17.3 33 42.7 33 47.8

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SUW	$\Delta = 495\text{km}$ Pn eZ 02 33 38.1 Sg eNE 34 56.6	
DEC 19		
GIG:	$\varphi = 50.060^\circ\text{N}$, $\lambda = 18.434^\circ\text{E}$ $H = 23:18:02.8$, $M = 2.2$	
RAC	$\Delta = 17\text{km}$ Pg iZ 23 18 06.6 D Sg iN 18 09.7	
OJC	$\Delta = 99\text{km}$ Pg eZ 23 18 19.5 Sg eN 18 32.1	
NIE	$\Delta = 153\text{km}$ Pg iZ 23 18 29.3 Sg eE 18 49.0	
DEC 20		
GIG:	$\varphi = 50.266^\circ\text{N}$, $\lambda = 18.882^\circ\text{E}$ $H = 10:24:40.4$, $M = 2.3$	
OJC	$\Delta = 66\text{km}$ Pg eZ 10 24 52.1 Sg eE 25 00.6	
NIE	$\Delta = 139\text{km}$ Pg eZ 10 25 04.3 Sg eE 25 21.8	
KSP	$\Delta = 194\text{km}$ Pg eZ 10 25 12.3 Sg eN 25 35.2	
DEC 20		
GIG:	$\varphi = 50.266^\circ\text{N}$, $\lambda = 18.867^\circ\text{E}$ $H = 13:45:02.8$, $M = 2.5$	
OJC	$\Delta = 66\text{km}$ Pg eZ 13 45 14.5 Sg eN 45 23.1	
NIE	$\Delta = 141\text{km}$ Pg eZ 13 45 27.0 Sg eE 45 45.2	
KSP	$\Delta = 193\text{km}$ Pn eZ 13 45 32.7 Pg eZ 45 35.2 Sg eN 45 58.2	
DEC 20		
GIG:	$\varphi = 50.215^\circ\text{N}$, $\lambda = 19.067^\circ\text{E}$ $H = 18:14:45.6$, $M = 2.5$	
OJC	$\Delta = 52\text{km}$ Pg iZ 18 14 54.8 D Sg eE 15 01.4	
NIE	$\Delta = 126\text{km}$ Pg eZ 18 15 07.8 Sg eE 15 23.7	
KSP	$\Delta = 208\text{km}$ Pg eE 18 15 20.2 Sg eE 15 44.8	
DEC 20		
GIG:	$\varphi = 50.099^\circ\text{N}$, $\lambda = 19.162^\circ\text{E}$ $H = 19:50:30.4$, $M = 2.4$	
OJC	$\Delta = 47\text{km}$ Pg eZ 19 50 38.8 Sg iN 50 44.6	
NIE	$\Delta = 112\text{km}$ Pg eZ 19 50 49.6 Sg eE 51 04.8	
DEC 21		
GIG:	$\varphi = 50.215^\circ\text{N}$, $\lambda = 19.064^\circ\text{E}$ $H = 09:32:58.2$, $M = 2.2$	
OJC	$\Delta = 52\text{km}$ Pg eZ 09 33 07.3 Sg eN 33 14.2	
NIE	$\Delta = 126\text{km}$ Pg eZ 09 33 20.8 Sg eN 33 36.5	
KSP	$\Delta = 208\text{km}$ Pg eZ 09 33 33.5 Sg eN 33 57.3	
DEC 22		
GIG:	$\varphi = 50.236^\circ\text{N}$, $\lambda = 18.931^\circ\text{E}$ $H = 04:54:53.8$, $M = 2.3$	
OJC	$\Delta = 62\text{km}$ Pg eZ 04 55 04.8 Sg eN 55 12.5	
NIE	$\Delta = 135\text{km}$ Pg eZ 04 55 17.4 Sg eE 55 34.1	

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KSP	$\Delta = 199\text{km}$		
Pg	eE	04 55 26.8	
Sg	eN	55 50.4	
DEC 22			
GIG: $\varphi = 50.036^\circ\text{N}$, $\lambda = 18.436^\circ\text{E}$			
H = 08:39:38.0, M = 2.6			
RAC	$\Delta = 18\text{km}$		
Pg	iZ	08 39 41.9 D	
Sg	eNE	39 45.2	
OJC	$\Delta = 99\text{km}$		
Pg	eZ	08 39 54.9	
Sg	eE	40 07.4	
NIE	$\Delta = 152\text{km}$		
Pg	eZ	08 40 04.3	
Sg	eE	40 23.7	
KSP	$\Delta = 176\text{km}$		
Pn	eZ	08 40 05.9	
Pg	eZ	40 08.5	
Sg	eE	40 28.5	

DEC 22			
GIG: $\varphi = 50.204^\circ\text{N}$, $\lambda = 19.073^\circ\text{E}$			
H = 16:51:39.7, M = 2.1			
OJC	$\Delta = 52\text{km}$		
Pg	eZ	16 51 49.0	
Sg	eE	51 55.2	
NIE	$\Delta = 125\text{km}$		
Pg	eZ	16 52 01.7	
Sg	eE	52 18.0	
KSP	$\Delta = 209\text{km}$		
Pg	eZ	16 52 13.2	
Sg	eN	52 40.5	

DEC 23			
GIG: $\varphi = 50.222^\circ\text{N}$, $\lambda = 18.729^\circ\text{E}$			
H = 00:11:01.7, M = 3.0			
RAC	$\Delta = 42\text{km}$		
Pg	eZ	00 11 09.8	
Sg	eNE	11 15.3	
OJC	$\Delta = 76\text{km}$		
Pg	iZ	00 11 15.1 C	
Sg	iN	11 25.1	
NIE	$\Delta = 145\text{km}$		
Pg	iZ	00 11 26.3 C	
Sg	eE	11 44.6	

KSP	$\Delta = 186\text{km}$		
Pg	iZ	00 11 31.9	
Sn	eE	11 53.3	

DEC 23			
GIG: $\varphi = 50.255^\circ\text{N}$, $\lambda = 18.862^\circ\text{E}$			
H = 02:00:26.9, M = 2.6			

RAC	$\Delta = 52\text{km}$		
Pg	eZ	02 00 36.4	
Sg	eNE	00 43.5	

OJC	$\Delta = 67\text{km}$		
Pg	eZ	02 00 38.6	
Sg	eE	00 47.1	

NIE	$\Delta = 140\text{km}$		
Pg	eZ	02 00 51.2	
Sg	eE	01 09.0	

KSP	$\Delta = 193\text{km}$		
Pn	eZ	02 00 56.9	
Pg	iZ	00 59.1	
Sg	eN	01 21.5	

DEC 23			
GIG: $\varphi = 50.099^\circ\text{N}$, $\lambda = 19.204^\circ\text{E}$			
H = 03:33:59.9, M = 2.1			

OJC	$\Delta = 44\text{km}$		
Pg	eZ	03 34 07.4	
Sg	eNE	34 13.7	

NIE	$\Delta = 110\text{km}$		
Pg	eZ	03 34 19.6	
Sg	eE	34 33.5	

KSP	$\Delta = 222\text{km}$		
Pg	eZ	03 34 36.0	
(Sg)	eN	35 01.4	

DEC 23			
GIG: $\varphi = 49.979^\circ\text{N}$, $\lambda = 18.570^\circ\text{E}$			
H = 05:29:21.7, M = 2.2			

RAC	$\Delta = 29\text{km}$		
Pg	iZ	05 29 28.1 D	
Sg	eNE	29 32.5	

OJC	$\Delta = 92\text{km}$		
Pg	eZ	05 29 37.7	
Sg	eE	29 49.0	

NIE	$\Delta = 140\text{km}$		
Pg	eZ	05 29 46.4	

KSP	$\Delta = 188\text{km}$		
Pg	eZ	05 29 53.3	
Sg	eE	30 16.1	

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DEC 23

GIG: $\varphi = 50.266^\circ\text{N}$, $\lambda = 18.882^\circ\text{E}$
H = 10:18:12.9, M = 2.2

OJC $\Delta = 66\text{km}$
Pg eZ 10 18 24.4
Sg eNE 18 32.8

NIE $\Delta = 140\text{km}$
Pg eZ 10 18 37.5
Sg eN 18 54.3

KSP $\Delta = 194\text{km}$
Pg eZ 10 18 45.2
Sg eN 19 07.8

DEC 23

$\varphi = 50.28^\circ\text{N}$, $\lambda = 19.27^\circ\text{E}$
H = 11:40:53.8, M = 2.4

OJC $\Delta = 38\text{km}$
Pg eZ 11 41 00.1
Sg eN 41 05.4

NIE $\Delta = 122\text{km}$
Pg eZ 11 41 15.3
Sg eE 41 30.5

KSP $\Delta = 220\text{km}$
Pg eZ 11 41 30.4
Sg eN 41 55.5

DEC 24

$\varphi = 50.30^\circ\text{N}$, $\lambda = 18.82^\circ\text{E}$
H = 01:03:17.8, M = 2.3

OJC $\Delta = 70\text{km}$
Pg eZ 01 03 30.2
Sg eE 03 39.1

NIE $\Delta = 145\text{km}$
Pg eZ 01 03 42.7
Sg eE 04 00.4

KSP $\Delta = 189\text{km}$
Pg eZ 01 03 48.5
Sg eN 04 11.9

DEC 24

GIG: $\varphi = 50.266^\circ\text{N}$, $\lambda = 18.882^\circ\text{E}$
H = 04:58:13.8, M = 2.0

OJC $\Delta = 66\text{km}$
Pg eZ 04 58 25.7
Sg eN 58 34.1

NIE $\Delta = 140\text{km}$
Pg eZ 04 58 38.2
Sg eN 58 55.2

KSP $\Delta = 194\text{km}$
Pg eE 04 58 45.5
Sg eN 59 09.0

DEC 24

GIG: $\varphi = 50.366^\circ\text{N}$, $\lambda = 18.881^\circ\text{E}$
H = 05:19:33.1, M = 2.4

OJC $\Delta = 67\text{km}$
Pg eZ 05 19 44.6
Sg eN 19 53.8

NIE $\Delta = 148\text{km}$
Pg eZ 05 19 58.1
Sg eE 20 16.8

KSP $\Delta = 190\text{km}$
Pg eZ 05 20 04.6
Sn eN 20 25.5

DEC 24

GIG: $\varphi = 50.262^\circ\text{N}$, $\lambda = 18.932^\circ\text{E}$
H = 10:20:01.4, M = 2.2

OJC $\Delta = 62\text{km}$
Pg iZ 10 20 12.3 D
Sg eN 20 20.3

NIE $\Delta = 137\text{km}$
Pg eZ 10 20 25.1
Sg eE 20 42.1

KSP $\Delta = 198\text{km}$
Pg eZ 10 20 34.1
Sg eN 20 57.8

DEC 26

GIG: $\varphi = 50.238^\circ\text{N}$, $\lambda = 19.069^\circ\text{E}$
H = 20:18:19.1, M = 2.2

OJC $\Delta = 52\text{km}$
Pg eZ 20 18 28.2
Sg iN 18 35.7

NIE $\Delta = 128\text{km}$
Pg eZ 20 18 41.2
Sg eN 18 57.3

KSP $\Delta = 208\text{km}$
Pn eZ 20 18 51.3
Pg eZ 18 52.9
Sg eN 19 17.6

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DEC 27

GIG: $\varphi = 50.262^\circ\text{N}$, $\lambda = 18.897^\circ\text{E}$
H = 17:13:34.0, M = 2.6

OJC $\Delta = 65\text{km}$
Pg eZ 17 13 45.5 D
Sg eZ 13 54.0

NIE $\Delta = 138\text{km}$
Pg eZ 17 13 57.9
Sg eN 14 14.3

KSP $\Delta = 195\text{km}$
Pg eZ 17 14 06.8
Sg eN 14 29.0

DEC 28

GIG: $\varphi = 50.266^\circ\text{N}$, $\lambda = 18.882^\circ\text{E}$
H = 07:00:11.0, M = 2.2

OJC $\Delta = 65\text{km}$
Pg eZ 07 00 22.5
Sg eE 00 30.9

NIE $\Delta = 140\text{km}$
Pg eZ 07 00 35.1
Sg eN 00 52.5

KSP $\Delta = 194\text{km}$
Pg eZ 07 00 43.5
Sg eN 01 06.1

DEC 28

$\varphi = 50.29^\circ\text{N}$, $\lambda = 18.89^\circ\text{E}$
H = 15:50:21.9, M = 2.2

OJC $\Delta = 65\text{km}$
Pg eZ 15 50 33.9
Sg eE 50 41.9

NIE $\Delta = 140\text{km}$
Pg eZ 15 50 46.4
Sg eN 51 03.4

KSP $\Delta = 194\text{km}$
Pg eZ 15 50 54.0
Sg eN 51 16.9

DEC 28

$\varphi = 50.23^\circ\text{N}$, $\lambda = 19.09^\circ\text{E}$
H = 22:16:40.8, M = 2.2

OJC $\Delta = 51\text{km}$
Pg eZ 22 16 49.3
Sg eE 16 56.8

NIE $\Delta = 126\text{km}$
Pg eZ 22 17 02.3
Sg eE 17 18.7

KSP $\Delta = 209\text{km}$
Pg eZ 22 17 14.7
Sg eN 17 40.6

DEC 29

GIG: $\varphi = 50.101^\circ\text{N}$, $\lambda = 19.154^\circ\text{E}$
H = 05:34:37.5, M = 2.4

OJC $\Delta = 48\text{km}$
Pg eZ 05 34 45.7
Sg eE 34 52.1

KSP $\Delta = 219\text{km}$
Pg eE 05 35 13.2
Sn eE 05 35 37.8

DEC 29

GIG: $\varphi = 50.254^\circ\text{N}$, $\lambda = 18.860^\circ\text{E}$
H = 15:51:47.5, M = 2.4

OJC $\Delta = 67\text{km}$
Pg eZ 15 51 59.2
Sg eE 52 07.6

KSP $\Delta = 193\text{km}$
Pg eZ 15 52 19.8
Sg eEN 52 42.7

DEC 29

$\varphi = 50.27^\circ\text{N}$, $\lambda = 18.88^\circ\text{E}$
H = 23:14:22.8, M = 2.0

OJC $\Delta = 66\text{km}$
Pg eZ 23 14 34.6
Sg eE 14 42.6

NIE $\Delta = 140\text{km}$
Pg eZ 23 14 47.2
Sg eE 15 04.4

KSP $\Delta = 194\text{km}$
Pg eZ 23 14 55.2
Sg eN 15 18.4

DEC 30

GIG: $\varphi = 50.261^\circ\text{N}$, $\lambda = 18.898^\circ\text{E}$
H = 17:09:42.6, M = 2.3

OJC $\Delta = 64\text{km}$
Pg eZ 17 09 53.7
Sg eN 10 02.2

NIE $\Delta = 139\text{km}$
Pg eZ 17 10 06.5
Sg eE 10 24.8

KSP $\Delta = 195\text{km}$
Pg eZ 17 10 14.9
Sn eN 10 37.1

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DEC 30

GIG: $\varphi = 50.281^\circ\text{N}$, $\lambda = 18.839^\circ\text{E}$
H = 18:47:02.7, **M = 2.4**

OJC $\Delta = 68\text{km}$
 Pg eZ 18 47 14.8
 Sg eE 47 23.1

NIE $\Delta = 143\text{km}$
 Pg eZ 18 47 27.3
 Sg eE 47 45.4

KSP $\Delta = 191\text{km}$
 Pg eZ 18 47 34.8
 Sg eZ 47 57.3

DEC 31

GIG: $\varphi = 50.090^\circ\text{N}$, $\lambda = 18.439^\circ\text{E}$
H = 00:42:55.5, **M = 2.2**

RAC $\Delta = 17\text{km}$
 Pg iZ 00 42 59.5 C
 Sg eNE 43 02.3

OJC $\Delta = 98\text{km}$
 Pg eZ 00 43 12.8
 Sg eN 43 25.1

NIE $\Delta = 155\text{km}$
 Pg eZ 00 43 22.3
 Sg eN 43 42.7

KSP $\Delta = 173\text{km}$
 Pg eZ 00 43 23.8

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JAN 1

$\varphi = 51.496^\circ\text{N}$, $\lambda = 16.101^\circ\text{E}$
H = 06:32:57.4, M = 2.7

KSP $\Delta = 74.1\text{km}$
 Pg iNEZ 06 33 09.5
 Sg eNEZ 33 18.4

OJC $\Delta = 297.3\text{km}$
 Pg eZ 06 33 46.7
 Sg eN 34 22.1

JAN 1

$\varphi = 51.44^\circ\text{N}$, $\lambda = 16.19^\circ\text{E}$
H = 19:01:22, M = 2.7

KSP $\Delta = 67\text{km}$
 Pg eNZ 19 01 33.4
 Sg eNEZ 01 41.4

OJC $\Delta = 289\text{km}$
 Pg eZ 19 02 12.4
 Sg eE 02 46.0

JAN 3

$\varphi = 51.461^\circ\text{N}$, $\lambda = 16.107^\circ\text{E}$
H = 21:44:45.6, M = 2.6

KSP $\Delta = 70.2\text{km}$
 Pg eNEZ 21 44 57.1
 Sg eNEZ 45 05.4

OJC $\Delta = 295.1\text{km}$
 Pg eZ 21 45 35.5
 Sg eN 46 10.6

JAN 7

$\varphi = 51.514^\circ\text{N}$, $\lambda = 16.123^\circ\text{E}$
H = 02:19:03.2, M = 2.9

KSP $\Delta = 75.8\text{km}$
 Pg eNEZ 02 19 15.6
 Sg eNEZ 19 24.8

OJC $\Delta = 296.8\text{km}$
 Pg eZ 02 19 53.6
 Sg eN 20 28.6

JAN 7

$\varphi = 51.555^\circ\text{N}$, $\lambda = 16.096^\circ\text{E}$
H = 04:30:13.4, M = 3.7

KSP $\Delta = 80.6\text{km}$
 Pg iNEZ 04 30 26.6
 Sg iNEZ 30 36.3

GKP $\Delta = 206.5\text{km}$
 Pn eZ 04 30 45.9
 eZ 30 52.1
 S eE 31 14.2

RAC $\Delta = 221.2\text{km}$
 Pn eZ 04 30 49.5
 S eNE 31 15.4

OJC $\Delta = 300.6\text{km}$
 Pn eZ 04 30 56.3
 Pg iZ 31 04.3
 Sn eN 31 28.1
 Sg iN 31 39.0

NIE $\Delta = 383.0\text{km}$
 Pn eZ 04 31 06.6
 eZ 31 16.4
 S eN 32 02.3

KWP $\Delta = 515.8\text{km}$
 Pn eZ 04 31 22.9
 eZ 31 41.8
 Sn eNE 32 20.6
 S eNE 32 49.6

SUW $\Delta = 551.8\text{km}$
 Pg eZ 04 31 48.9

JAN 10

$\varphi = 51.500^\circ\text{N}$, $\lambda = 16.141^\circ\text{E}$
H = 14:41:04.9, M = 3.9

KSP $\Delta = 74.1\text{km}$
 Pg iNEZ 14 41 17.0
 Sg eNEZ 41 26.1

GKP $\Delta = 211.1\text{km}$
 Pn eZ 14 41 37.8
 Pg eZ 41 41.1
 Sn eE 42 01.2

RAC $\Delta = 214.5\text{km}$
 P eZ 14 41 39.9
 S eNE 42 05.6

OJC $\Delta = 295.0\text{km}$
 Pn eZ 14 41 45.5
 Pg iZ 41 55.1
 Sn eN 42 18.2
 Sg iN 42 28.5

NIE $\Delta = 376.8\text{km}$
 P eZ 14 42 07.3
 S eN 42 51.9

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					<u>JAN 15</u>					
KWP	$\Delta = 510.6\text{km}$					$\phi = 51.514^\circ\text{N}, \lambda = 16.124^\circ\text{E}$				
	Pn eZ	14	42	14.9		$H = 18:44:40.7, M = 2.5$				
	S eNE		43	35.2						
SUW	$\Delta = 552.5\text{km}$									
	Pn eZ	14	42	19.1						
	Pg eZ		42	38.6						
	Sg eNE		43	16.7						
<u>JAN 11</u>					$\phi = 51.405^\circ\text{N}, \lambda = 16.208^\circ\text{E}$					
					$H = 16:52:45.5, M = 2.7$					
KSP	$\Delta = 63.0\text{km}$									
	Pg eNEZ	16	52	55.8						
	Sg eNEZ		53	03.3						
OJC	$\Delta = 286.1\text{km}$									
	Pg eZ	16	53	34.6						
	Sg eN		54	08.2						
<u>JAN 14</u>					$\phi = 51.556^\circ\text{N}, \lambda = 16.098^\circ\text{E}$					
					$H = 08:05:34.6, M = 2.7$					
KSP	$\Delta = 80.7\text{km}$									
	Pg eNEZ	08	05	47.8						
	Sg eNEZ		05	57.4						
OJC	$\Delta = 300.6\text{km}$									
	Pg eZ	08	06	24.4						
	Sg eNE		07	00.8						
<u>JAN 14</u>					$\phi = 51.513^\circ\text{N}, \lambda = 16.082^\circ\text{E}$					
					$H = 09:47:19.5, M = 3.4$					
KSP	$\Delta = 76.2\text{km}$									
	Pg iNEZ	09	47	32.0						
	Sg eNEZ		47	40.8						
RAC	$\Delta = 218.4\text{km}$									
	P eZ	09	47	55.9						
	S eNE		48	21.6						
OJC	$\Delta = 299.3\text{km}$									
	Pg eZ	09	48	09.4						
	Sg eN		48	44.6						
NIE	$\Delta = 381.0\text{km}$									
	P eZ	09	48	23.0						
	S eE		49	09.2						
					<u>JAN 15</u>	$\phi = 51.514^\circ\text{N}, \lambda = 16.124^\circ\text{E}$				
						$H = 18:44:40.7, M = 2.5$				
KSP	$\Delta = 75.8\text{km}$									
	Pg eNEZ	18	44	53.1						
	Sg eNEZ		45	02.1						
OJC	$\Delta = 296.8\text{km}$									
	Pg eZ	18	45	31.0						
	Sg eN		46	06.0						
					<u>JAN 15</u>	$\phi = 51.513^\circ\text{N}, \lambda = 16.124^\circ\text{E}$				
						$H = 19:29:48.1, M = 3.4$				
KSP	$\Delta = 75.7\text{km}$									
	Pg eNEZ	19	30	00.5						
	Sg eNEZ		30	09.7						
GKP	$\Delta = 210.2\text{km}$									
	P eZ	19	30	24.9						
RAC	$\Delta = 216.4\text{km}$									
	P eZ	19	30	24.5						
	S eNE		30	50.0						
OJC	$\Delta = 296.7\text{km}$									
	Pg eZ	19	30	36.8						
	Sg eN		31	12.6						
NIE	$\Delta = 378.7\text{km}$									
	P eZ	19	30	51.4						
	S eE		31	37.4						
KWP	$\Delta = 512.3\text{km}$									
	Pg eZ	19	31	12.2						
					<u>JAN 16</u>	$\phi = 51.453^\circ\text{N}, \lambda = 16.088^\circ\text{E}$				
						$H = 13:27:12.7, M = 2.3$				
KSP	$\Delta = 69.6\text{km}$									
	Pg eNEZ	13	27	24.1						
	Sg eNEZ		27	32.4						
					<u>JAN 16</u>	$\phi = 51.513^\circ\text{N}, \lambda = 16.125^\circ\text{E}$				
						$H = 15:08:10.1, M = 2.6$				
KSP	$\Delta = 75.7\text{km}$									
	Pg eNEZ	15	08	22.5						
	Sg eNEZ		08	31.5						
OJC	$\Delta = 296.7\text{km}$									
	Pg eZ	15	09	00.0						
	Sg eN		09	34.7						

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JAN 18

$\phi = 51.472^\circ\text{N}$, $\lambda = 16.023^\circ\text{E}$
H = 05:22:16.1, M = 2.6

KSP $\Delta = 72.7\text{km}$
 Pg eNEZ 05 22 28.0
 Sg eNEZ 22 36.5

JAN 20

$\phi = 51.556^\circ\text{N}$, $\lambda = 16.099^\circ\text{E}$
H = 03:09:56.3, M = 3.7

KSP $\Delta = 80.7\text{km}$
 Pg iNEZ 03 10 09.5
 Sg iNEZ 10 19.1

RAC $\Delta = 221.1\text{km}$
 Pn eZ 03 10 28.9
 Pg eZ 10 32.9
 Sn eN 10 58.2

OJC $\Delta = 300.5\text{km}$
 Pn eZ 03 10 37.5
 Pg iZ 10 46.9
 Sn eN 11 11.6
 Sg iN 11 21.8

NIE $\Delta = 382.9\text{km}$
 Pn eZ 03 10 43.3
 eZ 10 59.6
 S eE 11 43.3

JAN 23

$\phi = 51.453^\circ\text{N}$, $\lambda = 16.085^\circ\text{E}$
H = 12:03:59.1, M = 2.3

KSP $\Delta = 69.6\text{km}$
 Pg eNEZ 12 04 10.5
 Sg eNEZ 04 18.9

JAN 25

$\phi = 51.477^\circ\text{N}$, $\lambda = 16.102^\circ\text{E}$
H = 04:46:50.7, M = 3.0

KSP $\Delta = 72.0\text{km}$
 Pg iNEZ 04 47 02.5
 Sg eNEZ 47 11.0

GKP $\Delta = 214.5\text{km}$
 Pn eZ 04 47 23.4
 eZ 47 25.2
 Sn eE 47 53.3

RAC $\Delta = 214.6\text{km}$
 P eZ 04 47 26.2
 S eNE 47 53.3

OJC $\Delta = 296.3\text{km}$
 Pg eZ 04 47 40.3
 Sg eN 48 16.0

NIE $\Delta = 377.5\text{km}$
 P eZ 04 47 53.5
 S eN 48 40.0

KWP $\Delta = 512.2\text{km}$
 Pg eZ 04 48 13.8

JAN 25

$\phi = 51.476^\circ\text{N}$, $\lambda = 16.113^\circ\text{E}$
H = 04:47:54.9, M = 3.0

KSP $\Delta = 71.7\text{km}$
 Pg eNEZ 04 48 06.7
 Sg eNEZ 48 15.1

OJC $\Delta = 295.5\text{km}$
 Pg eZ 04 48 45.2
 Sg eN 49 18.7

NIE $\Delta = 376.8\text{km}$
 P eZ 04 48 57.6
 S eN 49 42.5

JAN 25

$\phi = 51.406^\circ\text{N}$, $\lambda = 16.240^\circ\text{E}$
H = 09:59:27.8, M = 2.6

KSP $\Delta = 62.9\text{km}$
 Pg eNEZ 09 59 38.1
 Sg eNEZ 59 45.8

OJC $\Delta = 284.1\text{km}$
 Pg eZ 10 00 16.6
 Sg eN 00 49.9

JAN 25

$\phi = 51.45^\circ\text{N}$, $\lambda = 16.17^\circ\text{E}$
H = 16:53:40, M = 2.7

KSP $\Delta = 68\text{km}$
 Pg eNEZ 16 53 50.9
 Sg eNEZ 53 59.6

JAN 26

$\phi = 51.540^\circ\text{N}$, $\lambda = 16.060^\circ\text{E}$
H = 17:15:12.1, M = 2.6

KSP $\Delta = 79.5\text{km}$
 Pg eNEZ 17 15 25.1
 Sg eNEZ 15 34.3

OJC $\Delta = 302.1\text{km}$
 Pg eZ 17 16 02.7
 Sg eE 16 39.0

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JAN 28

$\phi = 51.496^\circ\text{N}$, $\lambda = 16.100^\circ\text{E}$
H = 02:03:17.8, M = 2.6

KSP $\Delta = 74.1\text{km}$
 Pg eNEZ 02 03 30.0
 Sg eNEZ 03 38.9

OJC $\Delta = 297.3\text{km}$
 Pg eZ 02 04 07.6
 Sg eN 04 42.6

JAN 29

$\phi = 51.450^\circ\text{N}$, $\lambda = 16.167^\circ\text{E}$
H = 00:53:01.9, M = 2.6

KSP $\Delta = 68.3\text{km}$
 Pg iNEZ 00 53 13.1
 Sg eNEZ 53 21.1

OJC $\Delta = 290.8\text{km}$
 Pg eZ 00 53 49.6
 Sg eN 54 25.1

FEB 1

$\phi = 51.47^\circ\text{N}$, $\lambda = 16.09^\circ\text{E}$
H = 05:16:10, M = 2.6

KSP $\Delta = 71\text{km}$
 Pg eN 05 16 21.8
 Sg eN 16 29.4

OJC $\Delta = 297\text{km}$
 Pg eZ 05 16 58.8
 Sg eN 17 35.3

FEB 1

$\phi = 51.449^\circ\text{N}$, $\lambda = 16.171^\circ\text{E}$
H = 13:55:35.6, M = 2.6

KSP $\Delta = 68.2\text{km}$
 Pg eZ 13 55 46.8
 Sg eE 55 54.8

FEB 2

$\phi = 51.543^\circ\text{N}$, $\lambda = 16.131^\circ\text{E}$
H = 14:22:56.9, M = 2.6

KSP $\Delta = 78.9\text{km}$
 Pg eZ 14 23 09.8
 Sg eE 23 19.2

OJC $\Delta = 297.9\text{km}$
 Pn eZ 14 23 38.5
 Pg eZ 23 47.5
 Sg eN 24 24.1

FEB 3

$\phi = 51.542^\circ\text{N}$, $\lambda = 16.132^\circ\text{E}$
H = 10:12:38.3, M = 3.0

KSP $\Delta = 78.8\text{km}$
 Pg eZ 10 12 51.2
 Sg eE 13 00.4

RAC $\Delta = 218.4\text{km}$
 P eZ 10 13 15.3
 S eN 13 40.0

OJC $\Delta = 297.8\text{km}$
 Pn eZ 10 13 19.4
 Pg iZ 13 28.7
 Sg eN 14 02.8

NIE $\Delta = 380.1\text{km}$
 P eZ 10 13 39.3
 S eN 14 25.1

FEB 3

$\phi = 51.537^\circ\text{N}$, $\lambda = 16.025^\circ\text{E}$
H = 17:44:48.3, M = 3.0

KSP $\Delta = 79.7\text{km}$
 Pg iZ 17 45 01.4
 Sg eE 45 11.1

RAC $\Delta = 223.1\text{km}$
 P eZ 17 45 25.7
 S eN 45 52.0

OJC $\Delta = 304.1\text{km}$
 Pn eZ 17 45 31.6
 Pg eZ 45 40.2
 Sn eN 46 02.8
 Sg eE 46 15.5

NIE $\Delta = 385.8\text{km}$
 P eZ 17 45 51.4
 S eN 46 37.8

FEB 3

$\phi = 51.449^\circ\text{N}$, $\lambda = 16.170^\circ\text{E}$
H = 22:47:01.5, M = 3.0

KSP $\Delta = 68.2\text{km}$
 Pg eZ 22 47 12.7
 Sg eE 47 20.3

OJC $\Delta = 290.6\text{km}$
 Pn eZ 22 47 41.2
 Pg eZ 47 51.1
 Sn eN 48 13.0
 Sg eN 48 25.6

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NIE $\Delta = 371.9\text{km}$
P eZ 22 48 01.8
S eE 48 45.7

FEB 4

$\phi = 51.561^\circ\text{N}$, $\lambda = 16.007^\circ\text{E}$
H = 16:41:56.8, M = 3.0

KSP $\Delta = 82.6\text{km}$
Pg eZ 16 42 10.3
Sg iE 42 20.3

OJC $\Delta = 306.4\text{km}$
Pn eZ 16 42 39.6
Pg eZ 42 49.2
Sn eN 43 12.1
Sg eE 43 24.7

FEB 5

$\phi = 51.484^\circ\text{N}$, $\lambda = 16.097^\circ\text{E}$
H = 16:43:34.6, M = 3.3

KSP $\Delta = 72.8\text{km}$
Pg eZ 16 43 46.5
Sg eE 43 55.6

RAC $\Delta = 215.4\text{km}$
P eZ 16 44 10.7
S eNE 44 35.9

OJC $\Delta = 296.9\text{km}$
Pn eZ 16 44 14.0
Pg eZ 44 25.9
Sn eN 44 48.4
Sg eN 45 00.6

NIE $\Delta = 378.3\text{km}$
P eZ 16 44 36.8
S eE 45 22.2

FEB 7

$\phi = 51.492^\circ\text{N}$, $\lambda = 16.093^\circ\text{E}$
H = 00:13:10.4, M = 4.0

KSP $\Delta = 73.8\text{km}$
Pg eZ 00 13 22.5
Sg eE 13 31.6

RAC $\Delta = 216.2\text{km}$
Pn eZ 00 13 42.4
Pg eZ 13 45.8
Sn eNE 14 06.0
Sg eNE 14 11.3

GKP $\Delta = 213.2\text{km}$
Pn eZ 00 13 43.0
Pg eZ 13 47.4
S eE 14 12.9

OJC $\Delta = 297.6\text{km}$
Pn eZ 00 13 51.4
Pg iZ 14 00.1
Sn eN 14 23.4
Sg iN 14 36.3

NIE $\Delta = 379.0\text{km}$
Pn eZ 00 14 01.4
eZ 14 12.3
S eN 14 58.2

KWP $\Delta = 513.4\text{km}$
Pn eZ 00 14 19.4
Pg eZ 14 34.4

SUW $\Delta = 555.8\text{km}$
Pg eZ 00 14 42.8
Sn eNE 15 22.0

FEB 7

$\phi = 51.514^\circ\text{N}$, $\lambda = 16.123^\circ\text{E}$
H = 13:59:21.1, M = 2.7

KSP $\Delta = 75.8\text{km}$
Pg eZ 13 59 33.5
Sg eE 59 42.9

FEB 9

$\phi = 51.503^\circ\text{N}$, $\lambda = 16.092^\circ\text{E}$
H = 18:08:31.2, M = 2.9

KSP $\Delta = 75.0\text{km}$
Pg iZ 18 08 43.5
Sg eE 08 52.5

OJC $\Delta = 298.2\text{km}$
Pg eZ 18 09 20.8
Sg eE 09 56.8

NIE $\Delta = 379.8\text{km}$
P eZ 18 09 33.5
S eE 10 19.5

FEB 11

$\phi = 51.470^\circ\text{N}$, $\lambda = 16.032^\circ\text{E}$
H = 16:24:34.7, M = 2.4

KSP $\Delta = 72.3\text{km}$
Pg eZ 16 24 46.5
Sg eE 24 55.3

FEB 11

$\phi = 51.54^\circ\text{N}$, $\lambda = 16.06^\circ\text{E}$
H = 16:52:42, M = 2.7

KSP $\Delta = 79\text{km}$
Pg eZ 16 52 55.0
Sg eE 53 02.0

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OJC	$\Delta = 302\text{km}$			
	Pg eZ	16	53	32.3
	Sg eE		54	07.8
<u>FEB 13</u>				
	$\phi = 51.511^\circ\text{N}, \lambda = 16.060^\circ\text{E}$			
	$H = 10:20:03.4, M = 2.7$			
KSP	$\Delta = 76.3\text{km}$			
	Pg eZ	10	20	15.9
	Sg eN		20	24.6
OJC	$\Delta = 300.6\text{km}$			
	Pg eZ	10	20	55.1
	Sg eN		21	29.7
<u>FEB 14</u>				
	$\phi = 51.506^\circ\text{N}, \lambda = 16.033^\circ\text{E}$			
	$H = 05:12:27.5, M = 2.9$			
KSP	$\Delta = 76.2\text{km}$			
	Pg eZ	05	12	40.0
	Sg eE		12	48.8
OJC	$\Delta = 302.0\text{km}$			
	Pg eZ	05	13	17.7
	Sg eN		13	53.9
NIE	$\Delta = 383.3\text{km}$			
	P eZ	05	13	30.5
	S eN		14	15.5
<u>FEB 14</u>				
	$\phi = 51.555^\circ\text{N}, \lambda = 16.098^\circ\text{E}$			
	$H = 06:46:36.5, M = 2.9$			
KSP	$\Delta = 80.6\text{km}$			
	Pg eZ	06	46	49.7
	Sg eE		46	59.4
OJC	$\Delta = 300.5\text{km}$			
	Pg eZ	06	47	28.0
	Sg eN		48	02.6
NIE	$\Delta = 382.9\text{km}$			
	P eZ	06	47	41.6
	S eE		48	26.2
<u>FEB 16</u>				
	$\phi = 51.512^\circ\text{N}, \lambda = 15.996^\circ\text{E}$			
	$H = 20:41:50.3, M = 3.3$			
KSP	$\Delta = 77.5\text{km}$			
	Pg eZ	20	42	03.0
	Sg eE		42	10.5

RAC	$\Delta = 222.5\text{km}$			
	P eZ	20	42	26.3
	S eNE		42	51.6
OJC	$\Delta = 304.6\text{km}$			
	Pn eZ	20	42	32.1
	Pg iZ		42	42.2
	Sg iN		43	17.8
NIE	$\Delta = 385.8\text{km}$			
	P eZ	20	42	53.2
	S eE		43	39.2
<u>FEB 17</u>				
	$\phi = 51.477^\circ\text{N}, \lambda = 16.111^\circ\text{E}$			
	$H = 17:18:10.9, M = 3.4$			
KSP	$\Delta = 71.9\text{km}$			
	Pg eZ	17	18	22.7
	Sg eE		18	31.6
RAC	$\Delta = 214.1\text{km}$			
	P eZ	17	18	46.9
	S eNE		19	11.6
OJC	$\Delta = 295.7\text{km}$			
	Pn eZ	17	18	53.0
	Pg eZ		19	01.5
	Sn eN		19	24.1
	Sg eE		19	37.9
NIE	$\Delta = 377.0\text{km}$			
	P eZ	17	19	12.7
	S eN		19	58.5
KWP	$\Delta = 511.6\text{km}$			
	Pg eZ	17	19	34.7
	Sn eNE		20	14.3
<u>FEB 18</u>				
	$\phi = 51.584^\circ\text{N}, \lambda = 15.992^\circ\text{E}$			
	$H = 06:54:49.0, M = 3.4$			
KSP	$\Delta = 85.3\text{km}$			
	Pg eZ	06	55	03.0
	Sg eE		55	13.1
OJC	$\Delta = 308.5\text{km}$			
	Pn eZ	06	55	31.3
	Pg iZ		55	41.2
	Sn eN		56	03.6
	Sg iN		56	16.8
NIE	$\Delta = 390.8\text{km}$			
	Pn eZ	06	55	42.1
	eZ		55	52.4
	S eE		56	39.8

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FEB 18

$\phi = 51.497^\circ\text{N}$, $\lambda = 16.101^\circ\text{E}$
H = 08:49:32.2, M = 2.7

KSP $\Delta = 74.2\text{km}$
 Pg eN 08 49 44.4
 Sg eE 49 53.3

OJC $\Delta = 297.3\text{km}$
 Pg eZ 08 50 22.6
 Sg eE 50 56.1

FEB 19

$\phi = 51.454^\circ\text{N}$, $\lambda = 16.086^\circ\text{E}$
H = 21:14:27.1, M = 2.4

KSP $\Delta = 69.7\text{km}$
 Pg eZ 21 14 38.5
 Sg eE 14 47.0

FEB 21

$\phi = 51.463^\circ\text{N}$, $\lambda = 16.113^\circ\text{E}$
H = 14:22:50.7, M = 2.6

KSP $\Delta = 70.3\text{km}$
 Pg eZ 14 23 02.2
 Sg eE 23 11.1

OJC $\Delta = 294.9\text{km}$
 Pg eZ 14 23 41.2
 Sg eN 24 14.6

FEB 21

$\phi = 51.471^\circ\text{N}$, $\lambda = 16.110^\circ\text{E}$
H = 17:20:46.4, M = 2.5

KSP $\Delta = 71.2\text{km}$
 Pg eZ 17 20 58.1
 Sg eE 21 06.6

FEB 21

$\phi = 51.496^\circ\text{N}$, $\lambda = 16.099^\circ\text{E}$
H = 20:47:57.8, M = 2.9

KSP $\Delta = 74.1\text{km}$
 Pg eZ 20 48 09.9
 Sg eE 48 19.0

OJC $\Delta = 297.4\text{km}$
 Pn eZ 20 48 40.0
 Pg eZ 48 47.4
 Sg eN 49 22.6

FEB 22

$\phi = 51.519^\circ\text{N}$, $\lambda = 16.114^\circ\text{E}$
H = 08:46:09.9, M = 3.2

KSP $\Delta = 76.5\text{km}$
 Pg eZ 08 46 22.4
 Sg eE 46 31.5

GKP $\Delta = 209.8\text{km}$
 P eZ 08 46 44.2
 (Sn) eE 47 07.2

RAC $\Delta = 217.4\text{km}$
 P eZ 08 46 47.3
 S eNE 47 12.6

OJC $\Delta = 297.7\text{km}$
 Pg eZ 08 46 59.9
 Sg eN 47 35.2

NIE $\Delta = 379.6\text{km}$
 P eZ 08 47 11.6
 S eN 47 57.7

KWP $\Delta = 513.2\text{km}$
 Pg eZ 08 47 33.8
 S eNE 48 42.1

FEB 25

$\phi = 51.540^\circ\text{N}$, $\lambda = 16.058^\circ\text{E}$
H = 06:13:55.4, M = 3.2

KSP $\Delta = 79.5\text{km}$
 Pg eZ 06 14 08.4
 Sg eE 14 17.8

RAC $\Delta = 221.8\text{km}$
 P eZ 06 14 32.3
 S eNE 14 58.3

OJC $\Delta = 302.2\text{km}$
 Pn eZ 06 14 36.8
 Pg eZ 14 46.9
 Sg eN 15 22.0

NIE $\Delta = 384.1\text{km}$
 P eZ 06 14 32.3
 S eNE 14 58.3

FEB 26

$\phi = 51.49^\circ\text{N}$, $\lambda = 16.06^\circ\text{E}$
H = 04:47:56, M = 2.6

KSP $\Delta = 74\text{km}$
 Pg eZ 04 48 08.0
 Sg eE 48 16.8

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OJC	$\Delta = 299\text{km}$ Pg eZ Sg eN	04 48 45.0 49 19.9
<u>FEB 27</u>		
	$\phi = 51.514^\circ\text{N}, \lambda = 16.124^\circ\text{E}$ $H = 14:04:07.3, M = 2.9$	
KSP	$\Delta = 75.8\text{km}$ Pg eZ Sg eE	14 04 19.7 04 28.9
OJC	$\Delta = 296.8\text{km}$ Pg eZ Sg eE	14 04 56.5 05 31.6
<u>MAR 1</u>		
	$\phi = 51.493^\circ\text{N}, \lambda = 16.061^\circ\text{E}$ $H = 06:33:51.5, M = 3.5$	
KSP	$\Delta = 74.3\text{km}$ Pg eZ Sg eE	06 34 03.7 34 11.3
GKP	$\Delta = 213.9\text{km}$ (Pn) eZ S eE	06 34 25.1 34 54.3
RAC	$\Delta = 217.9\text{km}$ P eZ S eE	06 34 27.2 34 52.5
OJC	$\Delta = 299.6\text{km}$ Pn eZ Pg iZ Sn eN Sg eE	06 34 32.6 34 41.3 35 05.0 35 16.6
NIE	$\Delta = 380.9\text{km}$ Pn eZ eZ S eN	06 34 43.1 34 53.3 35 38.5
KWP	$\Delta = 515.5\text{km}$ Pn eZ Sn eNE Sg eNE	06 35 00.6 35 49.0 36 21.3
SUW	$\Delta = 557.6\text{km}$ (Pg) eZ Sn eNE (Sg) eNE	06 35 30.8 36 01.8 36 25.6

<u>MAR 1</u>		
	$\phi = 51.524^\circ\text{N}, \lambda = 16.115^\circ\text{E}$ $H = 23:20:36.2, M = 2.7$	
KSP	$\Delta = 77.0\text{km}$ Pg eZ Sg eE	23 20 48.8 20 58.1
OJC	$\Delta = 297.9\text{km}$ Pg eZ Sg eN	23 21 24.7 22 00.9
<u>MAR 5</u>		
	$\phi = 51.557^\circ\text{N}, \lambda = 16.099^\circ\text{E}$ $H = 11:47:05.3, M = 2.6$	
KSP	$\Delta = 80.8\text{km}$ Pg eZ Sg eE	11 47 18.5 47 28.1
OJC	$\Delta = 300.6\text{km}$ Pg eZ Sg eN	11 47 56.5 48 31.9
<u>MAR 8</u>		
	$\phi = 51.520^\circ\text{N}, \lambda = 16.113^\circ\text{E}$ $H = 04:20:48.0, M = 2.8$	
KSP	$\Delta = 76.6\text{km}$ Pg eZ Sg eE	04 21 00.6 21 10.1
OJC	$\Delta = 297.8\text{km}$ Pg eZ Sg eN	04 21 37.4 22 12.1
<u>MAR 8</u>		
	$\phi = 51.537^\circ\text{N}, \lambda = 16.027^\circ\text{E}$ $H = 16:47:20.0, M = 2.4$	
KSP	$\Delta = 79.7\text{km}$ Pg eZ Sg eE	16 47 33.1 47 42.7
<u>MAR 8</u>		
	$\phi = 51.453^\circ\text{N}, \lambda = 16.080^\circ\text{E}$ $H = 22:18:13.2, M = 2.9$	
KSP	$\Delta = 69.7\text{km}$ Pg eZ Sg eE	22 18 24.6 18 33.0
RAC	$\Delta = 213.8\text{km}$ P eZ S eN	22 18 49.3 19 14.4

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OJC $\Delta = 296.4\text{km}$
Pn eZ 22 18 52.9
Pg eZ 19 02.3
Sg eN 19 39.1

NIE $\Delta = 377.2\text{km}$
P eZ 22 19 13.2
S eN 19 59.1

MAR 8

$\phi = 51.541^\circ\text{N}$, $\lambda = 16.018^\circ\text{E}$
H = 23:17:43.5, M = 2.7

KSP $\Delta = 80.2\text{km}$
Pg eZ 23 17 56.6
Sg eE 18 06.2

OJC $\Delta = 304.7\text{km}$
Pg eZ 23 18 34.5
Sg eE 19 10.9

MAR 9

$\phi = 51.447^\circ\text{N}$, $\lambda = 16.169^\circ\text{E}$
H = 22:01:13.4, M = 2.6

KSP $\Delta = 68.0\text{km}$
Pg eZ 22 01 24.5
Sg eN 01 32.9

OJC $\Delta = 290.6\text{km}$
Pg eZ 22 02 02.8
Sg eN 02 37.2

MAR 10

$\phi = 51.449^\circ\text{N}$, $\lambda = 16.170^\circ\text{E}$
H = 04:53:37.9, M = 2.6

KSP $\Delta = 68.2\text{km}$
Pg eZ 04 53 49.1
Sg eE 53 57.1

OJC $\Delta = 290.6\text{km}$
Pg eZ 04 54 27.6
Sg eE 55 02.1

MAR 11

$\phi = 51.446^\circ\text{N}$, $\lambda = 16.189^\circ\text{E}$
H = 05:12:13.3, M = 2.9

KSP $\Delta = 67.7\text{km}$
Pg iZ 05 12 24.4
Sg eE 12 31.7

RAC $\Delta = 207.9\text{km}$
P eZ 05 12 48.5
S eNE 13 13.1

OJC $\Delta = 289.3\text{km}$
Pg eZ 05 13 02.6
Sg eE 13 37.0

NIE $\Delta = 370.6\text{km}$
P eZ 05 13 15.3
S eN 13 59.3

MAR 13

$\phi = 51.500^\circ\text{N}$, $\lambda = 16.088^\circ\text{E}$
H = 23:02:38.4, M = 2.8

KSP $\Delta = 74.7\text{km}$
Pg eZ 23 02 50.7
Sg eE 02 59.6

OJC $\Delta = 298.3\text{km}$
Pg eZ 23 03 29.4
Sg eN 04 04.0

MAR 17

$\phi = 51.501^\circ\text{N}$, $\lambda = 16.092^\circ\text{E}$
H = 16:56:24.9, M = 2.6

KSP $\Delta = 74.8\text{km}$
Pg eZ 16 56 37.2
Sg eE 56 46.2

OJC $\Delta = 298.1\text{km}$
Pg eZ 16 57 14.6
Sg eE 57 50.5

MAR 18

$\phi = 51.510^\circ\text{N}$, $\lambda = 16.061^\circ\text{E}$
H = 04:58:48.6, M = 2.4

KSP $\Delta = 76.2\text{km}$
Pg eZ 04 59 01.1
Sg eE 59 09.7

MAR 18

$\phi = 51.517^\circ\text{N}$, $\lambda = 16.118^\circ\text{E}$
H = 14:27:29.2, M = 3.6

KSP $\Delta = 76.2\text{km}$
Pg iZ 14 27 41.7
Sg eE 27 51.0

RAC $\Delta = 217.0\text{km}$
P eZ 14 28 05.5
S eNE 28 31.1

OJC $\Delta = 297.3\text{km}$
Pg eZ 14 28 17.9
Sn eN 28 42.2
Sg eN 28 53.3

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NIE $\Delta = 379.3\text{km}$
P eZ 14 28 30.3
S eE 29 14.6

MAR 18

$\phi = 51.510^\circ\text{N}$, $\lambda = 16.061^\circ\text{E}$
H = 20:58:17.7, M = 3.7

KSP $\Delta = 76.2\text{km}$
Pg iZ 20 58 30.2
Sg eE 58 38.9

RAC $\Delta = 219.2\text{km}$
Pn eZ 20 58 50.2
Pg eZ 58 53.4
Sg eNE 59 20.6

GKP $\Delta = 212.1\text{km}$
Pn eZ 20 58 50.9
Pg eZ 58 54.0
Sg eNE 59 21.3

OJC $\Delta = 300.5\text{km}$
Pn eZ 20 58 58.9
Pg iZ 59 07.7
Sg iN 59 43.4

NIE $\Delta = 382.0\text{km}$
Pn eZ 20 59 09.5
eZ 59 19.8
S eN 21 00 05.7

KWP $\Delta = 516.2\text{km}$
Pn eZ 20 59 26.7
Pg eZ 59 42.3
Sg eNE 21 00 44.4

MAR 20

$\phi = 51.447^\circ\text{N}$, $\lambda = 16.169^\circ\text{E}$
H = 13:15:56.5, M = 2.7

KSP $\Delta = 68.0\text{km}$
Pg eZ 13 16 07.6
Sg eE 16 15.9

OJC $\Delta = 290.6\text{km}$
Pg eZ 13 16 45.0
Sg eN 17 19.9

MAR 20

$\phi = 51.483^\circ\text{N}$, $\lambda = 16.097^\circ\text{E}$
H = 21:46:56.1, M = 2.4

KSP $\Delta = 72.7\text{km}$
Pg eZ 21 47 08.0
Sg eE 47 16.7

MAR 21

$\phi = 51.492^\circ\text{N}$, $\lambda = 16.058^\circ\text{E}$
H = 15:32:42.9, M = 2.4

KSP $\Delta = 74.3\text{km}$
Pg eZ 15 32 55.1
Sg eE 33 04.1

MAR 23

$\phi = 51.46^\circ\text{N}$, $\lambda = 16.13^\circ\text{E}$
H = 16:51:53, M = 3.3

KSP $\Delta = 70\text{km}$
Pg eZ 16 52 04.6
Sg eE 52 12.1

RAC $\Delta = 212\text{km}$
P eZ 16 52 28.5
S eN 52 53.0

OJC $\Delta = 294\text{km}$
Pn eZ 16 52 34.0
Pg eZ 52 43.2
Sg eN 53 17.7

NIE $\Delta = 375\text{km}$
P eZ 16 52 54.1
S eN 53 39.2

MAR 24

$\phi = 51.477^\circ\text{N}$, $\lambda = 16.114^\circ\text{E}$
H = 05:00:57.1, M = 3.2

KSP $\Delta = 71.8\text{km}$
Pg eZ 05 01 08.9
Sg eE 01 17.6

GKP $\Delta = 214.2\text{km}$
P eZ 05 01 30.8
S eE 01 59.4

RAC $\Delta = 214.0\text{km}$
P eZ 05 01 31.6
S eNE 01 57.1

OJC $\Delta = 295.5\text{km}$
Pn eZ 05 01 38.6
Pg eZ 01 47.6
Sn eE 02 09.4
Sg eN 02 22.6

NIE $\Delta = 376.8\text{km}$
P eZ 05 01 58.2
S eN 02 44.8

KWP $\Delta = 511.5\text{km}$
Pg eZ 05 02 21.0
Sg eNE 03 25.8

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MAR 29

$\phi = 51.538^\circ\text{N}$, $\lambda = 16.056^\circ\text{E}$
 $H = 21:03:29.3$, $M = 2.7$

KSP $\Delta = 79.3\text{km}$
 Pg eZ 21 03 42.3
 Sg eE 03 51.7

OJC $\Delta = 302.2\text{km}$
 Pg eZ 21 04 20.8
 Sg eN 04 56.4

MAR 29

$\phi = 51.537^\circ\text{N}$, $\lambda = 16.057^\circ\text{E}$
 $H = 21:16:34.7$, $M = 2.7$

KSP $\Delta = 79.2\text{km}$
 Pg eZ 21 16 47.7
 Sg eE 16 57.1

OJC $\Delta = 302.1\text{km}$
 Pg eZ 21 17 26.2
 Sg eN 18 01.9

MAR 31

$\phi = 51.448^\circ\text{N}$, $\lambda = 16.170^\circ\text{E}$
 $H = 08:01:20.3$, $M = 3.0$

KSP $\Delta = 68.1\text{km}$
 Pg eZ 08 01 31.5
 Sg eE 01 39.6

OJC $\Delta = 290.6\text{km}$
 Pg eZ 08 02 10.1
 Sg eE 02 44.4

NIE $\Delta = 371.8\text{km}$
 P eZ 08 02 23.2
 S eE 03 06.6

MAR 31

$\phi = 51.496^\circ\text{N}$, $\lambda = 16.101^\circ\text{E}$
 $H = 10:58:38.6$, $M = 2.9$

KSP $\Delta = 74.1\text{km}$
 Pg eZE 10 58 50.8
 Sg eE 58 59.7

OJC $\Delta = 297.3\text{km}$
 Pg eZ 10 59 28.0
 Sg eN 11 00 03.3

APR 5

$\phi = 51.454^\circ\text{N}$, $\lambda = 16.076^\circ\text{E}$
 $H = 18:56:53.3$, $M = 2.6$

KSP $\Delta = 69.9\text{km}$
 Pg eZ 18 57 04.7
 Sg eE 57 13.0

OJC $\Delta = 296.7\text{km}$
 Pg eZ 18 57 42.9
 Sg eE 58 19.2

APR 6

$\phi = 51.470^\circ\text{N}$, $\lambda = 16.109^\circ\text{E}$
 $H = 16:04:11.6$, $M = 2.8$

KSP $\Delta = 71.1\text{km}$
 Pg eZ 16 04 23.3
 Sg eE 04 31.8

NIE $\Delta = 377.5\text{km}$
 P eZ 16 05 12.6
 S eE 05 57.0

APR 7

$\phi = 51.519^\circ\text{N}$, $\lambda = 16.112^\circ\text{E}$
 $H = 07:19:06.3$, $M = 2.8$

KSP $\Delta = 76.5\text{km}$
 Pg eZ 07 19 18.8
 Sg eE 19 28.1

OJC $\Delta = 297.8\text{km}$
 Pg eZ 07 19 56.3
 Sg eN 20 30.7

APR 11

$\phi = 51.450^\circ\text{N}$, $\lambda = 16.167^\circ\text{E}$
 $H = 20:00:42.2$, $M = 2.2$

KSP $\Delta = 68.3\text{km}$
 Pg eN 20 00 53.4
 Sg eE 01 02.0

APR 11

$\phi = 51.448^\circ\text{N}$, $\lambda = 16.171^\circ\text{E}$
 $H = 20:21:50.4$, $M = 2.3$

KSP $\Delta = 68.1\text{km}$
 Pg eZ 20 22 01.6
 Sg eN 22 09.8

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APR 13

$\varphi = 51.537^\circ\text{N}$, $\lambda = 16.055^\circ\text{E}$
H = 18:12:53.6, M = 2.6

KSP $\Delta = 79.2\text{km}$
 Pg eZ 18 13 06.6
 Sg eE 13 16.1

OJC $\Delta = 302.2\text{km}$
 Pg eZ 18 13 45.2
 Sg eN 14 20.9

APR 14

$\varphi = 51.449^\circ\text{N}$, $\lambda = 16.170^\circ\text{E}$
H = 00:38:49.6, M = 2.4

KSP $\Delta = 68.2\text{km}$
 Pg eZ 00 39 00.8
 Sg eE 39 08.9

APR 14

$\varphi = 51.478^\circ\text{N}$, $\lambda = 16.114^\circ\text{E}$
H = 03:57:18.3, M = 3.0

KSP $\Delta = 71.9\text{km}$
 Pg iZ 03 57 30.1
 Sg eE 57 38.6

OJC $\Delta = 295.6\text{km}$
 Pg eZ 03 58 07.4
 Sg eN 58 42.3

NIE $\Delta = 376.9\text{km}$
 P eZ 03 58 19.3
 S eN 59 04.7

KWP $\Delta = 511.5\text{km}$
 Pg eZ 03 58 41.2
 Sg eNE 59 45.7

APR 14

$\varphi = 51.449^\circ\text{N}$, $\lambda = 16.170^\circ\text{E}$
H = 20:55:14.8, M = 2.2

KSP $\Delta = 68.2\text{km}$
 Pg eZ 20 55 26.0
 Sg eE 55 33.8

APR 15

$\varphi = 51.456^\circ\text{N}$, $\lambda = 16.095^\circ\text{E}$
H = 04:25:56.1, M = 2.7

KSP $\Delta = 69.8\text{km}$
 Pg eZ 04 26 07.5
 Sg eE 26 16.0

OJC $\Delta = 295.6\text{km}$
 Pg eZ 04 26 44.3
 Sg eN 27 20.3

APR 16

$\varphi = 51.463^\circ\text{N}$, $\lambda = 16.108^\circ\text{E}$
H = 08:51:34.9, M = 3.0

KSP $\Delta = 70.4\text{km}$
 Pg iZ 08 51 47.1
 Sg eE 51 56.2

OJC $\Delta = 295.2\text{km}$
 Pn eZ 08 52 16.1
 Pg eZ 52 25.1
 Sg eNZ 53 00.7

NIE $\Delta = 376.3\text{km}$
 P eZ 08 52 37.5
 S eE 53 26.0

KWP $\Delta = 511.3\text{km}$
 Pn eZ 08 52 47.6
 Pg eZ 53 10.0

APR 18

$\varphi = 51.449^\circ\text{N}$, $\lambda = 16.170^\circ\text{E}$
H = 17:25:34.1, M = 2.4

KSP $\Delta = 68.2\text{km}$
 Pg eZ 17 25 45.3
 Sg eE 25 53.6

APR 20

$\varphi = 51.492^\circ\text{N}$, $\lambda = 16.059^\circ\text{E}$
H = 04:08:58.3, M = 3.6

KSP $\Delta = 74.3\text{km}$
 Pg iZ 04 09 10.5
 Sg iE 09 18.2

RAC $\Delta = 217.9\text{km}$
 P eZ 04 09 34.2
 S eNE 09 59.4

OJC $\Delta = 299.7\text{km}$
 Pn eZ 04 09 39.5
 Pg eZ 09 48.1
 Sg eE 10 23.5

APR 22

$\varphi = 51.540^\circ\text{N}$, $\lambda = 16.017^\circ\text{E}$
H = 11:01:15.0, M = 2.5

KSP $\Delta = 80.1\text{km}$
 Pg iZ 11 01 28.1
 Sg eE 01 37.7

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APR 22

$\phi = 51.449^\circ\text{N}$, $\lambda = 16.171^\circ\text{E}$
H = 16:16:27.8, M = 2.8

KSP $\Delta = 68.2\text{km}$
 Pg eZ 16 16 39.0
 Sg eE 16 46.9

OJC $\Delta = 290.6\text{km}$
 Pg eZ 16 17 17.1
 Sg eN 17 51.5

NIE $\Delta = 371.8\text{km}$
 P eZ 16 17 30.0
 S eE 18 15.3

APR 23

$\phi = 51.403^\circ\text{N}$, $\lambda = 16.208^\circ\text{E}$
H = 00:59:18.5, M = 2.4

KSP $\Delta = 62.8\text{km}$
 Pg eZ 00 59 28.8
 Sg eE 59 36.2

APR 26

$\phi = 51.562^\circ\text{N}$, $\lambda = 16.006^\circ\text{E}$
H = 05:34:59.0, M = 2.8

KSP $\Delta = 82.7\text{km}$
 Pg eZ 05 35 12.6
 Sg iE 35 22.4

OJC $\Delta = 306.5\text{km}$
 Pg eZ 05 35 50.4
 Sg eN 36 25.9

APR 28

$\phi = 51.518^\circ\text{N}$, $\lambda = 16.115^\circ\text{E}$
H = 15:49:43.1, M = 2.4

KSP $\Delta = 76.3\text{km}$
 Pg eZ 15 49 55.6
 Sg eE 50 05.0

APR 30

$\phi = 51.459^\circ\text{N}$, $\lambda = 16.132^\circ\text{E}$
H = 15:33:08.0, M = 2.4

KSP $\Delta = 69.6\text{km}$
 Pg iZ 15 33 19.4
 Sg eE 33 26.7

APR 30

$\phi = 51.496^\circ\text{N}$, $\lambda = 16.100^\circ\text{E}$
H = 22:57:47.1, M = 2.7

KSP $\Delta = 74.1\text{km}$
 Pg eZ 22 57 59.2
 Sg E 58 08.1

OJC $\Delta = 297.3\text{km}$
 Pg eZ 22 58 36.5
 Sg eN 59 11.7

MAY 4

$\phi = 51.490^\circ\text{N}$, $\lambda = 16.005^\circ\text{E}$
H = 15:13:06.3, M = 2.6

KSP $\Delta = 75.0\text{km}$
 Pg eZ 15 13 18.6
 Sg eE 13 27.7

OJC $\Delta = 302.9\text{km}$
 Pg eZ 15 13 57.6
 Sg eN 14 34.0

MAY 6

$\phi = 51.460^\circ\text{N}$, $\lambda = 16.131^\circ\text{E}$
H = 03:41:44.4, M = 2.2

KSP $\Delta = 69.8\text{km}$
 Pg iN 03 41 55.8
 Sg eE 42 03.0

MAY 8

$\phi = 51.514^\circ\text{N}$, $\lambda = 16.123^\circ\text{E}$
H = 04:11:17.8, M = 3.1

KSP $\Delta = 75.8\text{km}$
 Pg eZ 04 11 30.2
 Sg eE 11 39.5

GKP $\Delta = 210.1\text{km}$
 Pn eZ 04 11 50.5
 Sn eE 12 26.5

RAC $\Delta = 216.5\text{km}$
 P eZ 04 11 53.9
 S eNE 12 19.6

OJC $\Delta = 296.8\text{km}$
 Pn eZ 04 12 00.3
 Pg eZ 12 08.1
 Sn eE 12 31.2
 Sg eN 12 42.9

NIE $\Delta = 378.8\text{km}$
 P eZ 04 12 20.2
 S eN 13 05.3

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KWP $\Delta = 512.4\text{km}$
Pg eZ 04 12 41.6
Sg eNE 13 50.2

MAY 9

$\phi = 51.448^\circ\text{N}$, $\lambda = 16.171^\circ\text{E}$
 $H = 14:32:25.5$, $M = 3.2$

KSP $\Delta = 68.1\text{km}$
Pg eZ 14 32 36.7
Sg eE 32 44.8

GKP $\Delta = 215.9\text{km}$
Pn eZ 14 32 59.3
S eE 33 33.0

OJC $\Delta = 290.5\text{km}$
Pg eZ 14 33 13.8
Sg eE 33 47.9

NIE $\Delta = 371.7\text{km}$
P eZ 14 33 29.6
S eE 34 12.6

KWP $\Delta = 506.6\text{km}$
Pn eZ 14 33 35.5
Sn eNE 34 34.1

MAY 17

$\phi = 51.531^\circ\text{N}$, $\lambda = 16.091^\circ\text{E}$
 $H = 15:46:44.0$, $M = 2.4$

KSP $\Delta = 78.1\text{km}$
Pg eZ 15 46 56.8
Sg eE 47 06.0

MAY 19

$\phi = 51.491^\circ\text{N}$, $\lambda = 16.058^\circ\text{E}$
 $H = 00:19:51.4$, $M = 2.9$

KSP $\Delta = 74.2\text{km}$
Pg iZ 00 20 03.6
Sg eE 20 12.5

OJC $\Delta = 299.7\text{km}$
Pg eZ 00 20 42.0
Sg eE 21 17.5

MAY 20

$\phi = 51.496^\circ\text{N}$, $\lambda = 16.096^\circ\text{E}$
 $H = 09:23:00.9$, $M = 2.7$

KSP $\Delta = 74.2\text{km}$
Pg eZ 09 23 13.1
Sg eE 23 22.3

OJC $\Delta = 297.6\text{km}$
Pg eZ 09 23 51.0
Sg eN 24 25.7

MAY 21

$\phi = 51.540^\circ\text{N}$, $\lambda = 16.016^\circ\text{E}$
 $H = 10:35:55.0$, $M = 2.7$

KSP $\Delta = 80.1\text{km}$
Pg eZ 10 36 08.1
Sg eE 36 17.7

OJC $\Delta = 304.8\text{km}$
Pg eZ 10 36 46.2
Sg eE 37 22.3

MAY 22

$\phi = 51.471^\circ\text{N}$, $\lambda = 16.098^\circ\text{E}$
 $H = 04:09:33.2$, $M = 2.8$

KSP $\Delta = 71.4\text{km}$
Pg iZ 04 09 44.9
Sg eE 09 53.0

RAC $\Delta = 214.3\text{km}$
P eZ 04 10 08.2
S eNE 10 35.1

OJC $\Delta = 296.2\text{km}$
Pg eZ 04 10 24.4
Sg eN 10 57.6

NIE $\Delta = 377.4\text{km}$
P eZ 04 10 36.7
S eE 11 20.3

MAY 24

$\phi = 51.452^\circ\text{N}$, $\lambda = 16.077^\circ\text{E}$
 $H = 04:29:39.6$, $M = 2.6$

KSP $\Delta = 69.6\text{km}$
Pg iZ 04 29 51.0
Sg eE 29 59.4

OJC $\Delta = 296.6\text{km}$
Pg eZ 04 30 30.3
Sg eN 31 05.9

MAY 24

$\phi = 51.497^\circ\text{N}$, $\lambda = 16.100^\circ\text{E}$
 $H = 04:41:49.0$, $M = 2.4$

KSP $\Delta = 74.2\text{km}$
Pg eZ 04 42 01.2
Sg eE 42 10.1

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MAY 28

$\phi = 51.472^\circ\text{N}$, $\lambda = 16.106^\circ\text{E}$
 $H = 15:32:53.5$, $M = 2.5$

KSP $\Delta = 71.4\text{km}$
 Pg eZ 15 33 05.2
 Sg eN 33 13.5

MAY 28

$\phi = 51.494^\circ\text{N}$, $\lambda = 16.129^\circ\text{E}$
 $H = 20:23:55.4$, $M = 2.7$

KSP $\Delta = 73.5\text{km}$
 Pg eZ 20 24 07.4
 Sg eE 24 15.0

OJC $\Delta = 295.4\text{km}$
 Pg eZ 20 24 44.9
 Sg eN 25 19.1

JUN 1

$\phi = 51.470^\circ\text{N}$, $\lambda = 16.109^\circ\text{E}$
 $H = 16:02:22.3$, $M = 2.4$

KSP $\Delta = 71.1\text{km}$
 Pg eZ 16 02 34.0
 Sg eE 02 42.6

JUN 7

$\phi = 51.582^\circ\text{N}$, $\lambda = 15.993^\circ\text{E}$
 $H = 03:59:37.4$, $M = 3.0$

KSP $\Delta = 85.1\text{km}$
 Pg eZ 03 59 51.4
 Sg eE 04 00 01.6

OJC $\Delta = 308.4\text{km}$
 Pg eZ 04 00 28.9
 Sg eN 01 04.2

NIE $\Delta = 390.6\text{km}$
 P eZ 04 00 41.9
 S eN 01 28.6

JUN 7

$\phi = 51.536^\circ\text{N}$, $\lambda = 16.028^\circ\text{E}$
 $H = 15:51:44.5$, $M = 2.8$

KSP $\Delta = 79.5\text{km}$
 Pg iZ 15 51 57.5
 Sg eE 52 07.1

OJC $\Delta = 303.8\text{km}$
 Pg eZ 15 52 34.5
 Sn eN 52 58.8
 Sg eN 53 10.9

JUN 7

$\phi = 51.453^\circ\text{N}$, $\lambda = 16.082^\circ\text{E}$
 $H = 22:42:13.5$, $M = 2.1$

KSP $\Delta = 69.6\text{km}$
 Pg eZ 22 42 24.9
 Sg eE 42 33.4

JUN 8

$\phi = 51.407^\circ\text{N}$, $\lambda = 16.240^\circ\text{E}$
 $H = 02:29:36.4$, $M = 2.8$

KSP $\Delta = 63.1\text{km}$
 Pg eZ 02 29 46.7
 Sg eE 29 54.7

OJC $\Delta = 284.2\text{km}$
 Pg eZ 02 30 25.2
 Sg eN 30 58.7

JUN 9

$\phi = 51.552^\circ\text{N}$, $\lambda = 16.090^\circ\text{E}$
 $H = 03:39:46.7$, $M = 2.6$

KSP $\Delta = 80.4\text{km}$
 Pg eZ 03 39 59.9
 Sg eE 40 09.5

OJC $\Delta = 300.9\text{km}$
 Pg eZ 03 40 37.0
 Sg eN 41 12.3

JUN 11

$\phi = 51.448^\circ\text{N}$, $\lambda = 16.169^\circ\text{E}$
 $H = 15:34:45.9$, $M = 2.8$

KSP $\Delta = 68.1\text{km}$
 Pg eZ 15 34 57.1
 Sg eE 35 05.3

OJC $\Delta = 290.6\text{km}$
 Pg eZ 15 35 34.5
 Sg eN 36 09.6

JUN 15

$\phi = 51.535^\circ\text{N}$, $\lambda = 16.090^\circ\text{E}$
 $H = 03:27:32.7$, $M = 2.6$

KSP $\Delta = 78.5\text{km}$
 Pg eZ 03 27 45.6
 Sg eE 27 55.0

JUN 15

$\phi = 51.452^\circ\text{N}$, $\lambda = 16.083^\circ\text{E}$
 $H = 06:09:37.7$, $M = 2.6$

KSP $\Delta = 69.5\text{km}$
 Pg iZ 06 09 49.1
 Sg eE 09 57.5

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JUN 15

$\phi = 51.503^\circ\text{N}$, $\lambda = 16.089^\circ\text{E}$
 $H = 15:39:32.1$, $M = 2.5$

KSP $\Delta = 75.0\text{km}$
 Pg eZ 15 39 44.4
 Sg eE 39 53.4

JUN 16

$\phi = 51.517^\circ\text{N}$, $\lambda = 16.068^\circ\text{E}$
 $H = 14:33:14.5$, $M = 3.0$

KSP $\Delta = 76.8\text{km}$
 Pg eZ 14 33 27.1
 Sg iE 33 36.1

OJC $\Delta = 300.4\text{km}$
 Pg eZ 14 34 04.8
 Sg eN 34 39.8

JUN 17

$\phi = 51.535^\circ\text{N}$, $\lambda = 16.094^\circ\text{E}$
 $H = 03:52:31.0$, $M = 4.1$

KSP $\Delta = 78.5\text{km}$
 Pg eZ 03 52 43.9
 Sg eE 52 53.6

RAC $\Delta = 219.6\text{km}$
 Pn eZ 03 53 03.4
 eZ 53 07.0
 S eNE 53 33.3

OJC $\Delta = 299.7\text{km}$
 Pn eZ 03 53 12.7
 Pg eZ 53 21.7
 Sg eN 53 56.8

NIE $\Delta = 381.8\text{km}$
 Pn eZ 03 53 23.5
 eZ 53 33.9
 S eE 54 18.8

KWP $\Delta = 515.1\text{km}$
 Pn eZ 03 53 40.2
 Pg eZ 53 55.5
 S eNE 55 08.6

SUW $\Delta = 553.2\text{km}$
 Pn eZ 03 53 45.3
 Pg eZ 54 04.7
 Sg eNE 55 17.8

JUN 17

$\phi = 51.535^\circ\text{N}$, $\lambda = 16.090^\circ\text{E}$
 $H = 03:56:12.8$, $M = 3.0$

KSP $\Delta = 78.5\text{km}$
 Pg iZ 03 56 25.7
 Sg eE 56 35.2

OJC $\Delta = 300.0\text{km}$
 Pg eZ 03 57 03.9
 Sg eE 57 37.8

JUN 18

$\phi = 51.455^\circ\text{N}$, $\lambda = 16.101^\circ\text{E}$
 $H = 04:07:54.3$, $M = 2.7$

KSP $\Delta = 69.6\text{km}$
 Pg iZ 04 08 05.7
 Sg eE 08 14.0

OJC $\Delta = 295.2\text{km}$
 Pn eZ 04 08 36.4
 Pg eZ 08 44.6
 Sg eN 09 19.3

JUN 19

$\phi = 51.513^\circ\text{N}$, $\lambda = 16.081^\circ\text{E}$
 $H = 04:12:08.9$, $M = 2.6$

KSP $\Delta = 76.2\text{km}$
 Pg eZ 04 12 21.4
 Sg eE 12 30.7

OJC $\Delta = 299.4\text{km}$
 Pg eZ 04 12 59.3
 Sg eN 13 35.1

JUN 19

$\phi = 51.541^\circ\text{N}$, $\lambda = 16.130^\circ\text{E}$
 $H = 08:57:38.2$, $M = 3.0$

KSP $\Delta = 78.7\text{km}$
 Pg iZ 08 57 51.1
 Sg eE 58 00.2

RAC $\Delta = 218.4\text{km}$
 P eZ 08 58 14.6
 S eNE 58 40.2

OJC $\Delta = 297.8\text{km}$
 Pn eZ 08 58 20.4
 Pg eZ 58 28.9
 Sg eE 59 04.1

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JUN 21

$\phi = 51.538^\circ\text{N}$, $\lambda = 16.057^\circ\text{E}$
H = 13:50:32.0, M = 3.0

KSP $\Delta = 79.3\text{km}$
 Pg eZ 13 50 45.0
 Sg eE 50 54.4

RAC $\Delta = 221.6\text{km}$
 P eZ 13 51 09.1
 S eNE 51 35.2

OJC $\Delta = 302.2\text{km}$
 Pn eZ 13 51 13.8
 Pg iZ 51 23.5
 Sn eE 51 45.5
 Sg eN 51 59.1

NIE $\Delta = 384.1\text{km}$
 P eZ 13 51 35.7
 S eE 52 20.4

JUN 21

$\phi = 51.582^\circ\text{N}$, $\lambda = 15.992^\circ\text{E}$
H = 16:02:17.3, M = 3.2

KSP $\Delta = 85.1\text{km}$
 Pg eZ 16 02 31.3
 Sg eE 02 41.5

RAC $\Delta = 228.3\text{km}$
 P eZ 16 02 55.6
 S eNE 03 21.4

OJC $\Delta = 308.4\text{km}$
 Pn eZ 16 03 01.0
 Pg eZ 03 09.4
 Sg eN 03 45.2

NIE $\Delta = 390.6\text{km}$
 P eZ 16 03 22.0
 S eE 04 08.2

JUN 22

$\phi = 51.446^\circ\text{N}$, $\lambda = 16.188^\circ\text{E}$
H = 06:36:31.5, M = 3.3

KSP $\Delta = 67.7\text{km}$
 Pg iZ 06 36 42.6
 Sg eE 36 49.9

RAC $\Delta = 207.9\text{km}$
 P eZ 06 37 06.4
 S eNE 37 31.3

OJC $\Delta = 289.3\text{km}$
 Pn eZ 06 37 11.7
 Pg eZ 37 21.0
 Sn eN 37 42.7
 Sg eN 37 55.4

NIE $\Delta = 370.6\text{km}$
 P eZ 06 37 33.1
 S eN 38 18.9

KWP $\Delta = 505.4\text{km}$
 P eZ 06 37 47.4
 Sg eNE 39 03.1

JUN 23

$\phi = 51.448^\circ\text{N}$, $\lambda = 16.169^\circ\text{E}$
H = 03:45:38.0, M = 2.4

KSP $\Delta = 68.1\text{km}$
 Pg eZ 03 45 49.2
 Sg eE 45 57.5

JUN 23

$\phi = 51.480^\circ\text{N}$, $\lambda = 16.077^\circ\text{E}$
H = 06:30:18.0, M = 3.0

KSP $\Delta = 72.7\text{km}$
 Pg iZ 06 30 29.9
 Sg eE 30 38.5

OJC $\Delta = 298.0\text{km}$
 Pg eZ 06 31 07.5
 Sg eN 31 43.4

NIE $\Delta = 379.1\text{km}$
 P eZ 06 31 21.5
 S eE 32 09.3

JUN 23

$\phi = 51.540^\circ\text{N}$, $\lambda = 16.018^\circ\text{E}$
H = 22:09:00.6, M = 2.9

KSP $\Delta = 80.1\text{km}$
 Pg iZ 22 09 13.7
 Sg eE 09 23.3

OJC $\Delta = 304.7\text{km}$
 Pg eZ 22 09 51.4
 Sg eN 10 27.3

NIE $\Delta = 386.4\text{km}$
 P eZ 22 10 05.2
 S eE 10 50.1

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JUN 26

$\phi = 51.481^\circ\text{N}$, $\lambda = 16.097^\circ\text{E}$
H = 03:34:39.1, M = 3.0

KSP $\Delta = 72.5\text{km}$
 Pg iZ 03 34 51.0
 Sg eE 34 59.4

RAC $\Delta = 215.1\text{km}$
 Pn eZ 03 35 10.1
 eZ 35 13.8
 S eNE 35 39.9

OJC $\Delta = 296.8\text{km}$
 Pg eZ 03 35 28.5
 Sg eE 36 03.1

NIE $\Delta = 378.1\text{km}$
 P eZ 03 35 47.0
 S eN 36 27.0

JUN 26

$\phi = 51.447^\circ\text{N}$, $\lambda = 16.133^\circ\text{E}$
H = 11:57:10.3, M = 2.6

KSP $\Delta = 68.3\text{km}$
 Pg iZ 11 57 21.5
 Sg eE 57 28.8

OJC $\Delta = 292.8\text{km}$
 Pg eZ 11 57 59.4
 Sg eN 58 34.3

JUN 27

$\phi = 51.446^\circ\text{N}$, $\lambda = 16.117^\circ\text{E}$
H = 15:50:32.4, M = 3.1

KSP $\Delta = 68.4\text{km}$
 Pg iZ 15 50 43.6
 Sg eE 50 51.0

RAC $\Delta = 211.4\text{km}$
 P eZ 15 51 07.0
 S eNE 51 32.2

OJC $\Delta = 293.8\text{km}$
 Pn eZ 15 51 13.4
 Pg eZ 51 22.3
 Sg eN 51 56.9

NIE $\Delta = 374.7\text{km}$
 P eZ 15 51 36.6
 (S) eE 52 18.7

JUN 28

$\phi = 51.449^\circ\text{N}$, $\lambda = 16.171^\circ\text{E}$
H = 07:48:43.7, M = 2.8

KSP $\Delta = 68.2\text{km}$
 Pg eZ 07 48 54.9
 Sg eE 49 02.8

OJC $\Delta = 290.6\text{km}$
 Pg eZ 07 49 32.4
 Sg eE 50 07.9

JUN 28

$\phi = 51.536^\circ\text{N}$, $\lambda = 16.030^\circ\text{E}$
H = 16:17:11.7, M = 2.4

KSP $\Delta = 79.5\text{km}$
 Pg eZ 16 17 24.7
 Sg eE 17 34.2

JUN 29

$\phi = 51.450^\circ\text{N}$, $\lambda = 16.167^\circ\text{E}$
H = 17:51:35.9, M = 2.7

KSP $\Delta = 68.3\text{km}$
 Pg iZ 17 51 47.1
 Sg eE 51 55.1

OJC $\Delta = 290.8\text{km}$
 Pg eZ 17 52 24.3
 Sg eN 52 59.1

JUN 29

$\phi = 51.447^\circ\text{N}$, $\lambda = 16.120^\circ\text{E}$
H = 18:03:04.8, M = 2.9

KSP $\Delta = 68.5\text{km}$
 Pg iZ 18 03 16.0
 Sg eE 03 23.2

RAC $\Delta = 211.3\text{km}$
 P eZ 18 03 40.0
 S eNE 04 04.4

OJC $\Delta = 293.6\text{km}$
 Pn eZ 18 03 45.5
 Pg eZ 03 54.7
 Sg eN 04 29.4

NIE $\Delta = 374.6\text{km}$
 P eZ 18 04 05.7
 S eE 04 50.9

Lubin Copper Basin 2005

JUN 30

$\phi = 51.460^{\circ}\text{N}$, $\lambda = 16.131^{\circ}\text{E}$
 $H = 03:36:12.3$, $M = 2.8$

KSP $\Delta = 69.8\text{km}$
Pg iZ 03 36 23.7
Sg eE 36 31.1

OJC $\Delta = 293.6\text{km}$
Pg eZ 03 37 01.2
Sg eN 37 37.8

JUL 1

$\phi = 51.518^{\circ}\text{N}$, $\lambda = 16.112^{\circ}\text{E}$
 $H = 22:03:40.0$, $M = 2.9$

KSP $\Delta = 76.4\text{km}$
Pg eZ 22 03 52.5
Sg eE 04 01.7

RAC $\Delta = 217.4\text{km}$
P eZ 22 04 17.0
S eNE 04 42.8

OJC $\Delta = 297.7\text{km}$
Pg eZ 22 04 30.1
Sg eE 05 04.6

JUL 1

$\phi = 51.520^{\circ}\text{N}$, $\lambda = 16.111^{\circ}\text{E}$
 $H = 22:04:07.4$, $M = 3.0$

KSP $\Delta = 76.6\text{km}$
Pg eZ 22 04 20.0
Sg eE 04 28.6

RAC $\Delta = 217.6\text{km}$
P eZ 22 04 41.9
S eN 05 06.4

OJC $\Delta = 297.9\text{km}$
Pg eZ 22 04 57.6
Sg eE 05 32.1

NIE $\Delta = 379.7\text{km}$
P eZ 22 05 13.8
S eE 05 56.7

JUL 4

$\phi = 51.449^{\circ}\text{N}$, $\lambda = 16.118^{\circ}\text{E}$
 $H = 05:42:25.5$, $M = 3.2$

KSP $\Delta = 68.7\text{km}$
Pg iZ 05 42 36.8 D
Sg eE 42 44.1

RAC $\Delta = 211.6\text{km}$
P eZ 05 43 00.0
S eNE 43 25.1

OJC $\Delta = 293.9\text{km}$
Pn eZ 05 43 06.5
Pg eZ 43 15.5
Sg eN 43 49.7

NIE $\Delta = 374.8\text{km}$
P eZ 05 43 27.5
S eN 44 12.0

JUL 5

$\phi = 51.46^{\circ}\text{N}$, $\lambda = 16.13^{\circ}\text{E}$
 $H = 15:49:16$, $M = 2.7$

KSP $\Delta = 70\text{km}$
Pg eZ 15 49 27.0
Sg eE 49 34.2

OJC $\Delta = 294\text{km}$
Pg eZ 15 50 05.2
Sg eN 50 40.1

JUL 6

$\phi = 51.491^{\circ}\text{N}$, $\lambda = 16.058^{\circ}\text{E}$
 $H = 03:53:11.0$, $M = 2.4$

KSP $\Delta = 74.2\text{km}$
Pg eZ 03 53 23.2
Sg eE 53 32.0

JUL 7

$\phi = 51.459^{\circ}\text{N}$, $\lambda = 16.130^{\circ}\text{E}$
 $H = 15:59:36.0$, $M = 2.9$

KSP $\Delta = 69.7\text{km}$
Pg iZ 15 59 47.4
Sg eE 59 55.0

OJC $\Delta = 293.6\text{km}$
Pg eZ 16 00 25.6
Sg eE 00 59.5

NIE $\Delta = 374.8\text{km}$
P eZ 16 00 38.7
S eN 01 22.3

JUL 7

$\phi = 51.449^{\circ}\text{N}$, $\lambda = 16.172^{\circ}\text{E}$
 $H = 22:04:50.3$, $M = 2.5$

KSP $\Delta = 68.2\text{km}$
Pg eZ 22 05 01.5
Sg eE 05 09.5

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OJC $\Delta = 290.5\text{km}$
Pg eZ 22 05 39.8
Sg eE 06 13.2

JUL 13

$\phi = 51.537^\circ\text{N}$, $\lambda = 16.028^\circ\text{E}$
 $H = 03:59:26.5$, $M = 3.4$

KSP $\Delta = 79.6\text{km}$
Pg iZ 03 59 39.5 D
Sg iE 59 49.0

RAC $\Delta = 223.0\text{km}$
Pn eZ 03 59 59.1
eZ 04 00 02.9
S eNE 00 29.4

OJC $\Delta = 303.9\text{km}$
Pn eZ 04 00 08.1
Pg eZ 00 16.9
Sn eN 00 40.9
Sg eN 00 53.0

NIE $\Delta = 385.6\text{km}$
Pn eZ 04 00 20.1
eZ 00 30.2
S eE 01 15.5

KWP $\Delta = 519.5\text{km}$
Pn eZ 04 00 35.4
Pg eZ 00 51.3
S eNE 01 53.1

JUL 13

$\phi = 51.534^\circ\text{N}$, $\lambda = 16.024^\circ\text{E}$
 $H = 05:37:16.0$, $M = 2.8$

KSP $\Delta = 79.4\text{km}$
Pg eZ 05 37 29.0
Sg iE 37 38.5

OJC $\Delta = 304.0\text{km}$
Pg eZ 05 38 07.2
Sg eE 38 43.1

JUL 13

$\phi = 51.506^\circ\text{N}$, $\lambda = 16.092^\circ\text{E}$
 $H = 16:44:04.2$, $M = 2.7$

KSP $\Delta = 75.3\text{km}$
Pg eZ 16 44 16.5
Sg eE 44 25.6

OJC $\Delta = 298.3\text{km}$
Pg eZ 16 44 53.0
Sg eN 45 29.2

JUL 14

$\phi = 51.447^\circ\text{N}$, $\lambda = 16.166^\circ\text{E}$
 $H = 07:28:37.6$, $M = 2.6$

KSP $\Delta = 68.0\text{km}$
Pg eZ 07 28 48.8
Sg eE 28 56.7

JUL 15

$\phi = 51.473^\circ\text{N}$, $\lambda = 16.105^\circ\text{E}$
 $H = 03:45:43.4$, $M = 2.7$

KSP $\Delta = 71.5\text{km}$
Pg iZ 03 45 55.1
Sg iE 46 03.6

OJC $\Delta = 295.9\text{km}$
Pg eZ 03 46 33.5
Sg eE 47 08.5

JUL 16

$\phi = 51.480^\circ\text{N}$, $\lambda = 16.079^\circ\text{E}$
 $H = 03:45:22.3$, $M = 2.9$

KSP $\Delta = 72.6\text{km}$
Pg iZ 03 45 34.2 D
Sg eE 45 42.7

OJC $\Delta = 297.8\text{km}$
Pn eZ 03 46 03.5
Pg eZ 46 13.0
Sg eN 46 47.7

JUL 19

$\phi = 51.517^\circ\text{N}$, $\lambda = 16.117^\circ\text{E}$
 $H = 03:31:58.7$, $M = 4.0$

KSP $\Delta = 76.2\text{km}$
Pg iZ 03 32 11.2
Sg eE 32 20.2

RAC $\Delta = 217.1\text{km}$
Pn eZ 03 32 30.6
eZ 32 34.7
Sn eE 32 54.6
eNE 33 00.9

OJC $\Delta = 297.4\text{km}$
Pn eZ 03 32 39.9
Pg iZ 32 49.6
Sg iN 33 24.0

NIE $\Delta = 379.3\text{km}$
Pn eZ 03 32 52.0
Pg eZ 33 02.4
Sg eE 33 47.2

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KWP $\Delta = 512.9\text{km}$
Pn eZ 03 33 08.3
Pg eZ 33 22.5
(S) eNE 34 35.7

SUW $\Delta = 552.9\text{km}$
Pn eZ 03 33 12.8
Pg eZ 33 31.5
Sn eNE 34 10.3
Sg eNE 34 40.2

JUL 19

$\phi = 51.531^\circ\text{N}$, $\lambda = 16.138^\circ\text{E}$
H = 08:20:49.6, M = 2.8

KSP $\Delta = 77.5\text{km}$
Pg iZ 08 21 02.3
Sg eE 21 11.6

OJC $\Delta = 296.8\text{km}$
Pg eZ 08 21 38.9
Sg eN 22 14.1

NIE $\Delta = 379.1\text{km}$
P eZ 08 21 55.5
S eE 22 38.0

JUL 21

$\phi = 51.524^\circ\text{N}$, $\lambda = 16.108^\circ\text{E}$
H = 22:23:59.1, M = 2.5

KSP $\Delta = 77.1\text{km}$
Pg eZ 22 24 11.7
Sg eE 24 21.1

OJC $\Delta = 298.3\text{km}$
Pg eZ 22 24 49.2
Sg eN 25 24.1

JUL 22

$\phi = 51.557^\circ\text{N}$, $\lambda = 16.101^\circ\text{E}$
H = 15:02:07.4, M = 2.7

KSP $\Delta = 80.8\text{km}$
Pg iZ 15 02 20.7 D
Sg iE 02 30.3

OJC $\Delta = 300.4\text{km}$
Pg eZ 15 02 58.5
Sg eE 03 34.3

JUL 24

$\phi = 51.449^\circ\text{N}$, $\lambda = 16.170^\circ\text{E}$
H = 16:05:32.0, M = 3.0

KSP $\Delta = 68.2\text{km}$
Pg eZ 16 05 43.2
Sg eN 05 51.5

JUL 24

$\phi = 51.491^\circ\text{N}$, $\lambda = 16.058^\circ\text{E}$
H = 18:07:33.8, M = 2.5

KSP $\Delta = 74.2\text{km}$
Pg eZ 18 07 46.0
Sg eN 07 54.7

JUL 30

$\phi = 51.542^\circ\text{N}$, $\lambda = 16.014^\circ\text{E}$
H = 05:59:05.2, M = 2.9

OJC $\Delta = 305.0\text{km}$
Pg eZ 05 59 57.0
Sg eN 06 00 32.9

JUL 31

$\phi = 51.480^\circ\text{N}$, $\lambda = 16.080^\circ\text{E}$
H = 09:51:42.9, M = 2.8

KSP $\Delta = 72.6\text{km}$
Pg iZ 09 51 54.8
Sg eE 52 03.1

OJC $\Delta = 297.8\text{km}$
Pg eZ 09 52 32.2
Sg eN 53 08.3

NIE $\Delta = 379.0\text{km}$
P eZ 09 52 45.7
S eE 53 30.4

AUG 3

$\phi = 51.496^\circ\text{N}$, $\lambda = 16.101^\circ\text{E}$
H = 06:09:50.1, M = 2.8

KSP $\Delta = 74.1\text{km}$
Pg eZ 06 10 02.3
Sg eE 10 11.6

OJC $\Delta = 297.3\text{km}$
Pg eZ 06 10 39.8
Sg eN 11 15.5

NIE $\Delta = 378.8\text{km}$
P eZ 06 10 51.9
S eN 11 35.6

AUG 4

$\phi = 51.485^\circ\text{N}$, $\lambda = 16.096^\circ\text{E}$
H = 22:21:08.6, M = 2.3

KSP $\Delta = 72.9\text{km}$
Pg eZ 22 21 20.6
Sg eE 21 29.2

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AUG 5

$\varphi = 51.455^\circ\text{N}$, $\lambda = 16.099^\circ\text{E}$
 $H = 13:53:25.2$, $M = 2.6$

KSP $\Delta = 69.6\text{km}$
 Pg eZ 13 53 36.6
 Sg eE 53 45.4

OJC $\Delta = 295.3\text{km}$
 Pg eZ 13 54 15.3
 Sg eN 54 50.2

AUG 5

$\varphi = 51.507^\circ\text{N}$, $\lambda = 16.092^\circ\text{E}$
 $H = 16:32:39.4$, $M = 3.8$

KSP $\Delta = 75.4\text{km}$
 Pg iZ 16 32 51.8 D
 Sg eE 33 00.9

RAC $\Delta = 217.5\text{km}$
 Pn eZ 16 33 11.6
 eZ 33 15.1
 Sn eE 33 35.2
 eNE 33 41.6

GKP $\Delta = 211.6\text{km}$
 Pn eZ 16 33 12.7
 Pg eZ 33 20.1
 (S) eE 33 40.1

OJC $\Delta = 298.4\text{km}$
 Pn eZ 16 33 20.8
 Pg eZ 33 28.5
 Sg eN 34 03.9

NIE $\Delta = 380.1\text{km}$
 Pn eZ 16 33 32.8
 eZ 33 42.8
 S eN 34 27.4

AUG 6

$\varphi = 51.454^\circ\text{N}$, $\lambda = 16.078^\circ\text{E}$
 $H = 07:23:34.3$, $M = 2.6$

KSP $\Delta = 69.8\text{km}$
 Pg iZ 07 23 45.7 D
 Sg eE 23 54.0

OJC $\Delta = 296.6\text{km}$
 Pg eZ 07 24 23.7
 Sg eN 24 59.2

AUG 7

$\varphi = 51.582^\circ\text{N}$, $\lambda = 15.992^\circ\text{E}$
 $H = 08:24:55.9$, $M = 2.7$

KSP $\Delta = 85.1\text{km}$
 Pg iZ 08 25 09.9 D
 Sg eE 25 20.0

OJC $\Delta = 308.4\text{km}$
 Pg eZ 08 25 47.5
 Sg eN 26 22.6

AUG 9

$\varphi = 51.450^\circ\text{N}$, $\lambda = 16.172^\circ\text{E}$
 $H = 15:44:00.6$, $M = 2.4$

KSP $\Delta = 68.3\text{km}$
 Pg eZ 15 44 11.8
 Sg eE 44 19.7

AUG 11

$\varphi = 51.450^\circ\text{N}$, $\lambda = 16.172^\circ\text{E}$
 $H = 00:04:16.2$, $M = 2.2$

KSP $\Delta = 68.3\text{km}$
 Pg eZ 00 04 27.4
 Sg eE 04 35.3

AUG 11

$\varphi = 51.484^\circ\text{N}$, $\lambda = 16.095^\circ\text{E}$
 $H = 05:24:22.5$, $M = 3.5$

KSP $\Delta = 72.8\text{km}$
 Pg iZ 05 24 34.4 C
 Sg eE 24 43.3

RAC $\Delta = 215.5\text{km}$
 P eZ 05 24 58.3
 S eNE 25 23.8

GKP $\Delta = 213.9\text{km}$
 P eZ 05 25 03.4

OJC $\Delta = 297.0\text{km}$
 Pn eZ 05 25 03.4
 Pg iZ 25 12.3
 Sn eN 25 33.6
 Sg iE 25 48.0

NIE $\Delta = 378.4\text{km}$
 Pn eZ 05 25 15.8
 eZ 25 25.5
 S eE 26 10.1

KWP $\Delta = 513.0\text{km}$
 (Pn) eZ 05 25 26.6
 Pg eZ 25 46.3
 S eNE 26 19.9

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AUG 11

$\phi = 51.485^{\circ}\text{N}$, $\lambda = 16.094^{\circ}\text{E}$
 $H = 05:43:56.6$, $M = 2.7$

KSP $\Delta = 73.0\text{km}$
 Pg eZ 05 44 08.6
 Sg eE 44 17.3

OJC $\Delta = 297.2\text{km}$
 Pg eZ 05 44 47.8
 Sg eN 45 21.4

AUG 11

$\phi = 51.483^{\circ}\text{N}$, $\lambda = 16.095^{\circ}\text{E}$
 $H = 06:36:22.2$, $M = 2.7$

KSP $\Delta = 72.7\text{km}$
 Pg eZ 06 36 34.1 D
 Sg eE 36 42.4

OJC $\Delta = 297.0\text{km}$
 Pg eZ 06 37 12.8
 Sg eN 37 47.6

AUG 11

$\phi = 51.447^{\circ}\text{N}$, $\lambda = 16.170^{\circ}\text{E}$
 $H = 15:47:24.4$, $M = 2.3$

KSP $\Delta = 68.0\text{km}$
 Pg eZ 15 47 35.5
 Sg eE 47 43.5

AUG 11

$\phi = 51.524^{\circ}\text{N}$, $\lambda = 16.115^{\circ}\text{E}$
 $H = 17:53:49.9$, $M = 2.4$

KSP $\Delta = 77.0\text{km}$
 Pg eZ 17 54 02.5 C
 Sg eE 54 11.7

AUG 12

$\phi = 51.520^{\circ}\text{N}$, $\lambda = 16.111^{\circ}\text{E}$
 $H = 03:01:38.1$, $M = 3.1$

KSP $\Delta = 76.6\text{km}$
 Pg iZ 03 01 50.7 D
 Sg eE 02 00.0

RAC $\Delta = 217.6\text{km}$
 P eZ 03 02 15.7
 S eNE 02 39.9

GKP $\Delta = 209.8\text{km}$
 Pn eZ 03 02 17.1
 eZ 02 20.4
 Sn eNE 02 40.0

OJC $\Delta = 297.9\text{km}$
 Pg iZ 03 02 27.8
 Sg iE 03 04.1

NIE $\Delta = 379.8\text{km}$
 Pn eZ 03 02 41.4
 S eE 03 26.2

KWP $\Delta = 513.4\text{km}$
 Pg eZ 03 03 02.1
 S eNE 04 12.9

AUG 12

$\phi = 51.477^{\circ}\text{N}$, $\lambda = 16.114^{\circ}\text{E}$
 $H = 17:31:20.4$, $M = 3.3$

KSP $\Delta = 71.8\text{km}$
 Pg iZ 17 31 32.2 D
 Sg eE 31 40.7

RAC $\Delta = 214.0\text{km}$
 P eZ 17 31 55.4
 S eNE 32 20.1

OJC $\Delta = 295.5\text{km}$
 Pg eZ 17 32 08.7
 Sg eN 32 43.7

NIE $\Delta = 376.8\text{km}$
 P eZ 17 32 22.1
 S eN 33 06.7

AUG 13

$\phi = 51.541^{\circ}\text{N}$, $\lambda = 16.131^{\circ}\text{E}$
 $H = 20:27:02.6$, $M = 3.2$

KSP $\Delta = 78.7\text{km}$
 Pg iZ 20 27 15.5 D
 Sg eN 27 24.7

RAC $\Delta = 218.4\text{km}$
 P eZ 20 27 39.0
 S eNE 28 04.4

OJC $\Delta = 297.8\text{km}$
 Pg eZ 20 27 51.1
 Sg eN 28 27.2

NIE $\Delta = 380.1\text{km}$
 P eZ 20 28 06.5
 S eN 28 50.0

AUG 14

$\phi = 51.449^{\circ}\text{N}$, $\lambda = 16.171^{\circ}\text{E}$
 $H = 12:30:17.4$, $M = 2.2$

KSP $\Delta = 68.2\text{km}$
 Pg eZ 12 30 28.6
 Sg eE 30 36.4

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AUG 15

$\phi = 51.450^{\circ}\text{N}$, $\lambda = 16.166^{\circ}\text{E}$
H = 05:14:55.0, M = 2.6

KSP $\Delta = 68.3\text{km}$
 Pg iZ 05 15 06.2 C
 Sg eE 15 14.2

OJC $\Delta = 290.9\text{km}$
 Pg eZ 05 15 43.4
 Sg eN 16 18.3

AUG 17

$\phi = 51.448^{\circ}\text{N}$, $\lambda = 16.172^{\circ}\text{E}$
H = 03:43:20.9, M = 3.1

KSP $\Delta = 68.0\text{km}$
 Pg iZ 03 43 32.1 D
 Sg eE 43 40.3

RAC $\Delta = 208.9\text{km}$
 P eZ 03 43 56.8
 S eNE 44 22.1

OJC $\Delta = 290.4\text{km}$
 Pg eZ 03 44 09.7
 Sg eE 44 43.5

KWP $\Delta = 506.5\text{km}$
 Pg eZ 03 44 44.9
 S eNE 45 48.6

AUG 18

$\phi = 51.546^{\circ}\text{N}$, $\lambda = 16.052^{\circ}\text{E}$
H = 03:30:32.1, M = 2.3

KSP $\Delta = 80.2\text{km}$
 Pg eZ 03 30 45.3
 Sg eE 30 54.9

AUG 18

$\phi = 51.539^{\circ}\text{N}$, $\lambda = 16.011^{\circ}\text{E}$
H = 23:03:41.3, M = 2.2

KSP $\Delta = 80.1\text{km}$
 Pg eZ 23 03 54.4
 Sg eE 04 04.2

AUG 19

$\phi = 51.484^{\circ}\text{N}$, $\lambda = 16.097^{\circ}\text{E}$
H = 04:07:21.3, M = 2.4

KSP $\Delta = 72.8\text{km}$
 Pg eZ 04 07 33.2
 Sg eE 07 42.0

AUG 19

$\phi = 51.483^{\circ}\text{N}$, $\lambda = 16.098^{\circ}\text{E}$
H = 09:04:20.3, M = 3.1

KSP $\Delta = 72.7\text{km}$
 Pg iZ 09 04 32.2 D
 Sg eE 04 40.9

OJC $\Delta = 296.8\text{km}$
 Pg eZ 09 05 10.1
 Sg eE 05 45.1

AUG 20

$\phi = 51.467^{\circ}\text{N}$, $\lambda = 16.108^{\circ}\text{E}$
H = 03:28:15.3, M = 2.7

KSP $\Delta = 70.8\text{km}$
 Pg iZ 03 28 26.9 D
 Sg eE 28 35.4

OJC $\Delta = 295.4\text{km}$
 Pg eZ 03 29 05.5
 Sg eN 29 41.3

AUG 20

$\phi = 51.467^{\circ}\text{N}$, $\lambda = 16.109^{\circ}\text{E}$
H = 04:22:40.2, M = 2.7

KSP $\Delta = 70.8\text{km}$
 Pg iZ 04 22 51.8 D
 Sg eE 23 00.2

OJC $\Delta = 295.3\text{km}$
 Pg eZ 04 23 30.1
 Sg eE 24 04.8

AUG 20

$\phi = 51.491^{\circ}\text{N}$, $\lambda = 16.005^{\circ}\text{E}$
H = 05:39:14.5, M = 2.6

KSP $\Delta = 75.1\text{km}$
 Pg eZ 05 39 26.8
 Sg eE 39 35.8

OJC $\Delta = 303.0\text{km}$
 Pg eZ 05 40 05.0
 Sg eN 40 41.8

AUG 25

$\phi = 51.45^{\circ}\text{N}$, $\lambda = 16.10^{\circ}\text{E}$
H = 04:11:24, M = 3.2

KSP $\Delta = 69\text{km}$
 Pg iZ 04 11 35.6 D
 Sg eE 11 44.2

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RAC $\Delta = 212\text{km}$
P eZ 04 11 59.6
S eNE 12 24.2

OJC $\Delta = 295\text{km}$
Pg eZ 04 12 14.5
Sg eN 12 49.2

NIE $\Delta = 376\text{km}$
P eZ 04 12 26.1
S eN 13 10.8

KWP $\Delta = 511\text{km}$
Pg eZ 04 12 49.1
S eNE 13 55.7

AUG 25

$\phi = 51.453^\circ\text{N}$, $\lambda = 16.076^\circ\text{E}$
H = 14:54:07.7, M = 2.6

KSP $\Delta = 69.7\text{km}$
Pg iZ 14 54 19.1 D
Sg eE 54 27.3

AUG 25

$\phi = 51.471^\circ\text{N}$, $\lambda = 16.108^\circ\text{E}$
H = 16:11:10.1, M = 2.3

KSP $\Delta = 71.3\text{km}$
Pg eZ 16 11 21.8
Sg eE 11 30.3

AUG 26

$\phi = 51.49^\circ\text{N}$, $\lambda = 16.06^\circ\text{E}$
H = 15:47:29, M = 2.6

KSP $\Delta = 74\text{km}$
Pg iZ 15 47 41.1 D
Sg eE 47 48.5

OJC $\Delta = 299\text{km}$
Pg eZ 15 48 19.1
Sg eE 48 54.8

AUG 27

$\phi = 51.478^\circ\text{N}$, $\lambda = 16.034^\circ\text{E}$
H = 20:31:28.0, M = 2.7

KSP $\Delta = 73.1\text{km}$
Pg iZ 20 31 40.0 D
Sg eE 31 48.7

OJC $\Delta = 300.5\text{km}$
Pg eZ 20 32 18.8
Sg eN 32 53.8

AUG 28

$\phi = 51.448^\circ\text{N}$, $\lambda = 16.172^\circ\text{E}$
H = 01:03:07.3, M = 3.1

KSP $\Delta = 68.0\text{km}$
Pg iZ 01 03 18.5 D
Sg eE 03 26.8

RAC $\Delta = 208.9\text{km}$
Pn eZ 01 03 38.3
eZ 03 42.0
S eNE 04 07.0

OJC $\Delta = 290.4\text{km}$
Pg eZ 01 03 55.5
Sg eE 04 29.7

NIE $\Delta = 371.7\text{km}$
P eZ 01 04 09.4
S eE 04 54.0

AUG 30

$\phi = 51.58^\circ\text{N}$, $\lambda = 15.99^\circ\text{E}$
H = 00:51:16, M = 2.7

KSP $\Delta = 85\text{km}$
Pg eZ 00 51 30.1
Sg eE 51 40.1

OJC $\Delta = 308\text{km}$
Pg eZ 00 52 07.6
Sg eN 52 43.9

SEP 1

$\phi = 51.520^\circ\text{N}$, $\lambda = 16.112^\circ\text{E}$
H = 21:09:11.9, M = 2.2

KSP $\Delta = 76.6\text{km}$
Pg eZ 21 09 24.5
Sg eE 09 33.7

SEP 2

$\phi = 51.447^\circ\text{N}$, $\lambda = 16.166^\circ\text{E}$
H = 19:40:03.3, M = 2.8

KSP $\Delta = 68.0\text{km}$
Pg iZ 19 40 14.4 D
Sg eE 40 22.4

SEP 2

$\phi = 51.556^\circ\text{N}$, $\lambda = 16.101^\circ\text{E}$
H = 23:30:24.7, M = 2.5

KSP $\Delta = 80.7\text{km}$
Pg eZ 23 30 37.9
Sg eE 30 46.5

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OJC $\Delta = 300.4\text{km}$
Pg eZ 23 31 14.4
Sg eE 31 50.5

SEP 3

$\phi = 51.531^\circ\text{N}$, $\lambda = 16.139^\circ\text{E}$
 $H = 15:00:32.6$, $M = 2.6$

KSP $\Delta = 77.5\text{km}$
Pg eZ 15 00 45.3
Sg eE 00 54.4

OJC $\Delta = 296.7\text{km}$
Pg eZ 15 01 22.9
Sg eN 01 57.0

SEP 7

$\phi = 51.447^\circ\text{N}$, $\lambda = 16.189^\circ\text{E}$
 $H = 09:21:36.7$, $M = 2.8$

KSP $\Delta = 67.8\text{km}$
Pg eZ 09 21 47.8
Sg eE 21 54.9

OJC $\Delta = 289.3\text{km}$
Pg eZ 09 22 26.2
Sg eN 23 00.5

SEP 9

$\phi = 51.458^\circ\text{N}$, $\lambda = 16.131^\circ\text{E}$
 $H = 16:26:26.3$, $M = 2.7$

KSP $\Delta = 69.6\text{km}$
Pg iZ 16 26 37.7 D
Sg eE 26 45.1

OJC $\Delta = 293.5\text{km}$
Pg eZ 16 27 14.8
Sg eE 27 50.5

SEP 11

$\phi = 51.508^\circ\text{N}$, $\lambda = 16.037^\circ\text{E}$
 $H = 16:01:31.7$, $M = 2.8$

KSP $\Delta = 76.3\text{km}$
Pg eZ 16 01 44.2
Sg eE 01 53.2

OJC $\Delta = 301.9\text{km}$
Pg eZ 16 02 22.3
Sg eN 02 57.5

SEP 11

$\phi = 51.493^\circ\text{N}$, $\lambda = 16.130^\circ\text{E}$
 $H = 22:53:18.3$, $M = 2.2$

KSP $\Delta = 73.4\text{km}$
Pg eZ 22 53 30.3
Sg eN 53 39.3

SEP 12

$\phi = 51.494^\circ\text{N}$, $\lambda = 16.129^\circ\text{E}$
 $H = 11:42:47.1$, $M = 2.8$

KSP $\Delta = 73.5\text{km}$
Pg iZ 11 42 59.2 D
Sg eE 43 06.8

OJC $\Delta = 295.4\text{km}$
Pg eZ 11 43 36.4
Sg eN 44 11.4

SEP 14

$\phi = 51.531^\circ\text{N}$, $\lambda = 16.140^\circ\text{E}$
 $H = 01:03:35.7$, $M = 2.2$

KSP $\Delta = 77.5\text{km}$
Pg eZ 01 03 48.4
Sg eE 03 57.3

SEP 14

$\phi = 51.477^\circ\text{N}$, $\lambda = 16.113^\circ\text{E}$
 $H = 04:06:27.2$, $M = 3.2$

KSP $\Delta = 71.9\text{km}$
Pg iZ 04 06 39.0 D
Sg eE 06 47.3

RAC $\Delta = 214.0\text{km}$
Pn eZ 04 06 59.0
eZ 07 02.7
S eNE 07 28.1

OJC $\Delta = 295.6\text{km}$
Pg eZ 04 07 16.1
Sg eN 07 51.1

NIE $\Delta = 376.9\text{km}$
P eZ 04 07 29.9
S eN 08 15.0

SEP 15

$\phi = 51.447^\circ\text{N}$, $\lambda = 16.189^\circ\text{E}$
 $H = 07:24:36.3$, $M = 3.4$

KSP $\Delta = 67.8\text{km}$
Pg eZ 07 24 47.4
Sg eE 24 55.6

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RAC $\Delta = 208.0\text{km}$
P eZ 07 25 10.7
S eNE 25 35.2

OJC $\Delta = 289.3\text{km}$
Pg eZ 07 25 25.1
Sg eE 25 58.6

NIE $\Delta = 370.6\text{km}$
P eZ 07 25 38.4
S eN 26 21.0

SEP 19

$\phi = 51.534^\circ\text{N}$, $\lambda = 16.091^\circ\text{E}$
 $H = 16:20:27.0$, $M = 2.9$

KSP $\Delta = 78.4\text{km}$
Pg eZ 16 20 39.9
Sg eE 20 49.4

RAC $\Delta = 219.7\text{km}$
P eZ 16 21 03.5
S eNE 21 29.7

OJC $\Delta = 299.9\text{km}$
Pg eZ 16 21 15.8
Sg eN 21 52.4

NIE $\Delta = 381.9\text{km}$
P eZ 16 21 30.9
S eN 22 15.7

SEP 20

$\phi = 51.492^\circ\text{N}$, $\lambda = 16.130^\circ\text{E}$
 $H = 03:15:29.8$, $M = 2.9$

KSP $\Delta = 73.3\text{km}$
Pg iZ 03 15 41.8 D
Sg eE 15 50.5

RAC $\Delta = 214.4\text{km}$
P eZ 03 16 04.6
S eNE 16 30.4

OJC $\Delta = 295.3\text{km}$
Pg eZ 03 16 19.5
Sg eN 16 54.0

NIE $\Delta = 376.9\text{km}$
P eZ 03 16 32.7
S eE 17 16.0

SEP 23

$\phi = 51.491^\circ\text{N}$, $\lambda = 16.057^\circ\text{E}$
 $H = 02:54:19.3$, $M = 2.3$

KSP $\Delta = 74.2\text{km}$
Pg eZ 02 54 31.5
Sg eE 54 40.4

SEP 23

$\phi = 51.491^\circ\text{N}$, $\lambda = 16.058^\circ\text{E}$
 $H = 05:42:12.4$, $M = 2.3$

KSP $\Delta = 74.2\text{km}$
Pg eZ 05 42 24.6
Sg eE 42 33.7

SEP 23

$\phi = 51.476^\circ\text{N}$, $\lambda = 16.107^\circ\text{E}$
 $H = 22:41:59.5$, $M = 2.4$

KSP $\Delta = 71.8\text{km}$
Pg eZ 22 42 11.3
Sg eN 42 19.7

SEP 24

$\phi = 51.536^\circ\text{N}$, $\lambda = 16.029^\circ\text{E}$
 $H = 02:37:39.7$, $M = 3.2$

KSP $\Delta = 79.5\text{km}$
Pg iZ 02 37 52.7 D
Sg eE 38 02.2

RAC $\Delta = 222.8\text{km}$
P eZ 02 38 16.3
S eN 38 42.7

OJC $\Delta = 303.8\text{km}$
Pg eZ 02 38 30.0
Sg eN 39 06.3

NIE $\Delta = 385.5\text{km}$
P eZ 02 38 43.5
S eE 39 29.6

KWP $\Delta = 519.4\text{km}$
Pn eZ 02 38 50.1
eZ 39 08.5
Sn eNE 39 55.2

SEP 25

$\phi = 51.466^\circ\text{N}$, $\lambda = 16.110^\circ\text{E}$
 $H = 16:03:31.9$, $M = 2.9$

KSP $\Delta = 70.7\text{km}$
Pg iZ 16 03 43.5 D
Sg eE 03 52.0

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OJC	$\Delta = 295.2\text{km}$			
	Pg eZ	16	04	21.5
	Sg eN		04	56.6
<u>SEP 28</u>				
	$\varphi = 51.509^\circ\text{N}, \lambda = 16.087^\circ\text{E}$			
	$H = 13:19:48.1, M = 2.6$			
KSP	$\Delta = 75.7\text{km}$			
	Pg eZ	13	20	00.5
	Sg eE		20	09.7
OJC	$\Delta = 298.8\text{km}$			
	Pg eZ	13	20	37.9
	Sg eN		21	13.7
<u>SEP 28</u>				
	$\varphi = 51.509^\circ\text{N}, \lambda = 16.087^\circ\text{E}$			
	$H = 13:20:58.3, M = 3.1$			
KSP	$\Delta = 75.7\text{km}$			
	Pg eZ	13	21	10.7
	Sg eN		21	20.3
OJC	$\Delta = 298.8\text{km}$			
	Pg eZ	13	21	48.5
	Sg eE		22	23.5
<u>SEP 28</u>				
	$\varphi = 51.446^\circ\text{N}, \lambda = 16.169^\circ\text{E}$			
	$H = 21:08:46.7, M = 2.2$			
KSP	$\Delta = 67.8\text{km}$			
	Pg eZ	21	08	57.8
	Sg eE		09	05.9
<u>SEP 29</u>				
	$\varphi = 51.451^\circ\text{N}, \lambda = 16.173^\circ\text{E}$			
	$H = 04:56:50.1, M = 2.5$			
KSP	$\Delta = 68.4\text{km}$			
	Pg eZ	04	57	01.3
	Sg eE		57	09.6
<u>SEP 29</u>				
	$\varphi = 51.453^\circ\text{N}, \lambda = 16.077^\circ\text{E}$			
	$H = 05:31:41.9, M = 3.1$			
KSP	$\Delta = 69.7\text{km}$			
	Pg iZ	05	31	53.3 D
	Sg eE		32	01.8
RAC	$\Delta = 213.9\text{km}$			
	P eZ	05	32	16.8
	S eN		32	41.3

OJC	$\Delta = 296.6\text{km}$			
	Pn eZ	05	32	23.8
	Pg eZ		32	32.4
	Sg eN		33	07.1
NIE	$\Delta = 377.4\text{km}$			
	P eZ	05	32	44.4
	S eN		33	29.2
KWP	$\Delta = 512.9\text{km}$			
	P eZ	05	33	05.8
	S eNE		34	15.8
<u>SEP 29</u>				
	$\varphi = 51.454^\circ\text{N}, \lambda = 16.076^\circ\text{E}$			
	$H = 05:54:35.8, M = 3.5$			
KSP	$\Delta = 69.9\text{km}$			
	Pg iZ	05	54	47.2 D
	Sg eE		54	55.0
GKP	$\Delta = 217.5\text{km}$			
	Pn eZ	05	55	09.8
	S eE		55	41.2
RAC	$\Delta = 214.0\text{km}$			
	P eZ	05	55	10.7
	S eNE		55	36.6
OJC	$\Delta = 296.7\text{km}$			
	Pn eZ	05	55	16.8
	Pg eZ		55	24.4
	Sg eN		55	59.5
NIE	$\Delta = 377.5\text{km}$			
	P eZ	05	55	39.2
	S eN		56	23.3
KWP	$\Delta = 513.0\text{km}$			
	Pn eZ	05	55	45.0
	eZ		56	04.5
	S eNE		57	04.3
<u>SEP 30</u>				
	$\varphi = 51.491^\circ\text{N}, \lambda = 16.057^\circ\text{E}$			
	$H = 04:01:57.0, M = 2.9$			
KSP	$\Delta = 74.2\text{km}$			
	Pg iZ	04	02	09.2 D
	Sg eE		02	18.4
OJC	$\Delta = 299.8\text{km}$			
	Pg eZ	04	02	47.2
	Sn eN		03	11.2
	Sg eN		03	22.2

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NIE $\Delta = 381.0\text{km}$
P eZ 04 03 00.5
S eE 03 46.5

SEP 30

$\phi = 51.455^\circ\text{N}$, $\lambda = 16.075^\circ\text{E}$
H = 06:24:59.0, M = 2.9

KSP $\Delta = 70.0\text{km}$
Pg iZ 06 25 10.5 D
Sg eE 25 18.7

OJC $\Delta = 296.8\text{km}$
Pg eZ 06 25 47.5
Sg eN 26 22.6

OCT 3

$\phi = 51.539^\circ\text{N}$, $\lambda = 16.016^\circ\text{E}$
H = 00:35:44.6, M = 2.6

KSP $\Delta = 80.1\text{km}$
Pg eZ 00 35 57.7
Sg eE 36 07.2

OJC $\Delta = 304.7\text{km}$
Pg eZ 00 36 35.4
Sg eN 37 11.7

OCT 3

$\phi = 51.454^\circ\text{N}$, $\lambda = 16.075^\circ\text{E}$
H = 01:47:01.1, M = 3.3

KSP $\Delta = 69.9\text{km}$
Pg iZ 01 47 12.6 D
Sg eE 47 20.8

GKP $\Delta = 217.6\text{km}$
P eZ 01 47 34.8
S eE 48 07.0

RAC $\Delta = 214.1\text{km}$
P eZ 01 47 36.2
S eNE 48 02.1

OJC $\Delta = 296.8\text{km}$
Pn eZ 01 47 42.1
Pg iZ 47 51.8
Sg eE 48 27.0

NIE $\Delta = 377.6\text{km}$
P eZ 01 48 03.7
S eN 48 48.7

KWP $\Delta = 513.1\text{km}$
Pn eZ 01 48 09.7
eZ 48 24.4
S eNE 49 32.8

SUW $\Delta = 559.2\text{km}$
Pn eZ 01 48 15.7
S eNE 49 49.2

OCT 5

$\phi = 51.480^\circ\text{N}$, $\lambda = 16.038^\circ\text{E}$
H = 03:54:19.6, M = 2.7

KSP $\Delta = 73.3\text{km}$
Pg iZ 03 54 31.6 D
Sg eE 54 40.2

OJC $\Delta = 300.4\text{km}$
Pg eZ 03 55 09.3
Sg eE 55 45.3

OCT 10

$\phi = 51.480^\circ\text{N}$, $\lambda = 16.038^\circ\text{E}$
H = 15:35:51.2, M = 2.5

KSP $\Delta = 73.3\text{km}$
Pg iZ 15 36 03.2 D
Sg eE 36 11.8

OCT 12

$\phi = 51.485^\circ\text{N}$, $\lambda = 16.098^\circ\text{E}$
H = 16:04:46.7, M = 3.1

KSP $\Delta = 72.9\text{km}$
Pg eZ 16 04 58.7
Sg eE 05 07.5

OJC $\Delta = 296.9\text{km}$
Pg eZ 16 05 36.6
Sg eNE 06 11.8

OCT 14

$\phi = 51.516^\circ\text{N}$, $\lambda = 16.114^\circ\text{E}$
H = 05:01:16.9, M = 3.1

KSP $\Delta = 76.1\text{km}$
Pg iZ 05 01 29.4 D
Sg eE 01 38.5

OJC $\Delta = 297.5\text{km}$
Pg eZ 05 02 06.9
Sg eE 02 41.7

NIE $\Delta = 379.4\text{km}$
P eZ 05 02 20.3
S eN 03 04.7

OCT 15

$\phi = 51.480^\circ\text{N}$, $\lambda = 16.037^\circ\text{E}$
H = 04:06:20.1, M = 3.1

KSP $\Delta = 73.3\text{km}$
Pg iZ 04 06 32.1 D
Sg iE 06 40.9

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RAC	$\Delta = 218.0\text{km}$		
P	eZ	04 06 56.0	
S	eNE	07 20.4	
OJC	$\Delta = 300.4\text{km}$		
Pn	eZ	04 07 02.9	
Pg	eZ	07 10.8	
Sg	eE	07 45.3	
NIE	$\Delta = 381.4\text{km}$		
P	eZ	04 07 23.5	
S	eE	08 09.3	
<u>OCT 15</u>			
	$\phi = 51.449^\circ\text{N}, \lambda = 16.171^\circ\text{E}$		
	$H = 04:29:52.6, M = 2.3$		
KSP	$\Delta = 68.2\text{km}$		
Pg	eZ	04 30 03.8	
Sg	eE	30 11.7	
<u>OCT 16</u>			
	$\phi = 51.411^\circ\text{N}, \lambda = 16.240^\circ\text{E}$		
	$H = 23:58:25.7, M = 2.6$		
KSP	$\Delta = 63.5\text{km}$		
Pg	iZ	23 58 36.1 D	
Sg	eE	58 43.8	
OJC	$\Delta = 284.4\text{km}$		
Pg	eZ	23 59 13.0	
Sg	eN	59 47.4	
<u>OCT 18</u>			
	$\phi = 51.490^\circ\text{N}, \lambda = 16.057^\circ\text{E}$		
	$H = 15:01:00.6, M = 2.6$		
KSP	$\Delta = 74.1\text{km}$		
Pg	eZ	15 01 12.7	
Sg	eE	01 20.4	
OJC	$\Delta = 299.7\text{km}$		
Pg	eZ	15 01 50.8	
Sg	eN	02 26.3	
<u>OCT 21</u>			
	$\phi = 51.448^\circ\text{N}, \lambda = 16.172^\circ\text{E}$		
	$H = 03:54:12.2, M = 3.2$		
KSP	$\Delta = 68.0\text{km}$		
Pg	iZ	03 54 23.4 D	
Sg	eE	54 31.8	
RAC	$\Delta = 208.9\text{km}$		
P	eZ	03 54 46.6	
S	eN	55 10.4	

OJC	$\Delta = 290.4\text{km}$		
Pn	eZ	03 54 52.5	
Pg	iZ	55 01.9	
Sn	eN	55 24.1	
Sg	eN	55 35.9	
NIE	$\Delta = 371.7\text{km}$		
P	eZ	03 55 14.4	
S	eN	55 58.4	
<u>OCT 22</u>			
	$\phi = 51.445^\circ\text{N}, \lambda = 16.169^\circ\text{E}$		
	$H = 00:02:39.4, M = 2.7$		
KSP	$\Delta = 67.7\text{km}$		
Pg	iZ	00 02 50.5 D	
Sg	eE	02 58.7	
OJC	$\Delta = 290.5\text{km}$		
Pg	eZ	00 03 28.5	
Sg	eN	04 03.2	
<u>OCT 22</u>			
	$\phi = 51.491^\circ\text{N}, \lambda = 16.055^\circ\text{E}$		
	$H = 09:51:23.7, M = 2.6$		
KSP	$\Delta = 74.2\text{km}$		
Pg	iZ	09 51 35.9 D	
Sg	eE	51 43.3	
OJC	$\Delta = 299.9\text{km}$		
Pg	eZ	09 52 13.6	
Sg	eN	52 48.9	
<u>OCT 23</u>			
	$\phi = 51.480^\circ\text{N}, \lambda = 16.037^\circ\text{E}$		
	$H = 13:34:12.5, M = 2.9$		
KSP	$\Delta = 73.3\text{km}$		
Pg	iZ	13 34 24.5 D	
Sg	eE	34 33.3	
OJC	$\Delta = 300.5\text{km}$		
Pg	eZ	13 35 03.8	
Sg	eE	35 39.3	
NIE	$\Delta = 381.4\text{km}$		
P	eZ	13 35 16.2	
S	eE	36 01.8	
<u>OCT 28</u>			
	$\phi = 51.58^\circ\text{N}, \lambda = 15.99^\circ\text{E}$		
	$H = 03:58:51, M = 3.0$		
KSP	$\Delta = 85\text{km}$		
Pg	eZ	03 59 04.6	
Sg	eE	59 14.9	

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RAC	$\Delta = 228\text{km}$		
P	eZ	03 59 29.4	
S	eNE	59 56.4	
OJC	$\Delta = 308\text{km}$		
Pn	eZ	03 59 34.1	
Pg	eZ	59 42.8	
Sg	eN	04 00 18.5	
NIE	$\Delta = 391\text{km}$		
P	eZ	03 59 55.6	
S	eE	04 00 39.9	
<u>OCT 30</u>			
	$\phi = 51.555^\circ\text{N}, \lambda = 16.100^\circ\text{E}$		
	$H = 09:13:20.2, M = 2.4$		
KSP	$\Delta = 80.6\text{km}$		
Pg	eZ	09 13 33.4	
Sg	eE	13 42.3	
<u>NOV 1</u>			
	$\phi = 51.514^\circ\text{N}, \lambda = 16.123^\circ\text{E}$		
	$H = 00:03:31.0, M = 3.0$		
KSP	$\Delta = 75.8\text{km}$		
Pg	iZ	00 03 43.4 D	
Sg	eE	03 52.7	
RAC	$\Delta = 216.5\text{km}$		
Pn	eZ	00 04 03.5	
	eZ	04 07.2	
Sg	eNE	04 32.8	
OJC	$\Delta = 296.8\text{km}$		
Pg	eZ	00 04 20.3	
Sg	eN	04 56.2	
NIE	$\Delta = 378.8\text{km}$		
P	eZ	00 04 33.3	
S	eE	05 18.6	
<u>NOV 2</u>			
	$\phi = 51.484^\circ\text{N}, \lambda = 16.096^\circ\text{E}$		
	$H = 03:25:45.0, M = 2.6$		
KSP	$\Delta = 72.8\text{km}$		
Pg	iZ	03 25 56.9 D	
Sg	eE	26 05.5	
OJC	$\Delta = 297.0\text{km}$		
Pg	eZ	03 26 34.7	
Sg	eN	27 09.3	

<u>NOV 3</u>			
	$\phi = 51.480^\circ\text{N}, \lambda = 16.037^\circ\text{E}$		
	$H = 01:44:35.1, M = 2.8$		
KSP	$\Delta = 73.3\text{km}$		
Pg	iZ	01 44 47.1 D	
Sg	eE	44 54.7	
RAC	$\Delta = 218.0\text{km}$		
P	eZ	01 45 11.2	
S	eE	45 36.6	
OJC	$\Delta = 300.5\text{km}$		
Pg	eZ	01 45 26.3	
Sg	eN	46 01.2	
NIE	$\Delta = 381.4\text{km}$		
P	eZ	01 45 38.7	
S	eE	46 23.8	
<u>NOV 4</u>			
	$\phi = 51.408^\circ\text{N}, \lambda = 16.239^\circ\text{E}$		
	$H = 14:37:55.7, M = 2.5$		
KSP	$\Delta = 63.2\text{km}$		
Pg	eZ	14 38 06.1	
Sg	eE	38 13.8	
<u>NOV 5</u>			
	$\phi = 51.447^\circ\text{N}, \lambda = 16.189^\circ\text{E}$		
	$H = 04:59:35.3, M = 3.2$		
KSP	$\Delta = 67.8\text{km}$		
Pg	iZ	04 59 46.4 D	
Sg	eE	59 53.4	
RAC	$\Delta = 208.0\text{km}$		
P	eZ	05 00 10.4	
S	eNE	00 34.9	
OJC	$\Delta = 289.3\text{km}$		
Pg	eZ	05 00 23.1	
Sg	eE	00 57.4	
NIE	$\Delta = 370.6\text{km}$		
P	eZ	05 00 36.6	
S	eN	01 20.5	
<u>NOV 5</u>			
	$\phi = 51.535^\circ\text{N}, \lambda = 16.057^\circ\text{E}$		
	$H = 06:46:21.5, M = 2.7$		
KSP	$\Delta = 79.0\text{km}$		
Pg	eZ	06 46 34.4	
Sg	eE	46 43.9	

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OJC $\Delta = 302.0\text{km}$
Pg eN 06 47 13.3
Sg eE 47 47.4

NOV 5

$\varphi = 51.449^\circ\text{N}$, $\lambda = 16.162^\circ\text{E}$
 $H = 10:07:24.3$, $M = 2.6$

KSP $\Delta = 68.2\text{km}$
Pg iZ 10 07 35.5 D
Sg eE 07 43.7

OJC $\Delta = 291.1\text{km}$
Pg eZ 10 08 13.9
Sg eN 08 47.4

NOV 6

$\varphi = 51.477^\circ\text{N}$, $\lambda = 16.112^\circ\text{E}$
 $H = 07:26:32.2$, $M = 2.7$

KSP $\Delta = 71.9\text{km}$
Pg iZ 07 26 44.0 D
Sg eE 26 52.4

OJC $\Delta = 295.6\text{km}$
Pg eZ 07 27 23.0
Sg eN 27 55.9

NOV 15

$\varphi = 51.447^\circ\text{N}$, $\lambda = 16.189^\circ\text{E}$
 $H = 20:59:19.0$, $M = 2.9$

KSP $\Delta = 67.8\text{km}$
Pg iZ 20 59 30.1 D
Sg eE 59 37.2

OJC $\Delta = 289.3\text{km}$
Pg eZ 21 00 06.9
Sg eE 00 41.4

NIE $\Delta = 370.6\text{km}$
P eZ 21 00 22.6
S eN 01 07.0

NOV 16

$\varphi = 51.401^\circ\text{N}$, $\lambda = 16.185^\circ\text{E}$
 $H = 17:30:44.5$, $M = 2.5$

KSP $\Delta = 62.7\text{km}$
Pg iZ 17 30 54.8 D
Sg eE 31 02.3

NOV 25

$\varphi = 51.478^\circ\text{N}$, $\lambda = 16.106^\circ\text{E}$
 $H = 04:51:24.5$, $M = 2.7$

KSP $\Delta = 72.0\text{km}$
Pg iZ 04 51 36.3 D
Sg eE 51 44.8

OJC $\Delta = 296.1\text{km}$
Pg eZ 04 52 14.0
Sg eE 52 49.9

NIE $\Delta = 377.4\text{km}$
P eZ 04 52 27.4
S eN 53 12.5

NOV 25

$\varphi = 51.562^\circ\text{N}$, $\lambda = 16.005^\circ\text{E}$
 $H = 17:30:37.2$, $M = 2.7$

KSP $\Delta = 82.7\text{km}$
Pg eZ 17 30 50.8
Sg eE 31 00.6

OJC $\Delta = 306.6\text{km}$
Pg eZ 17 31 29.7
Sg eN 32 04.7

NOV 25

$\varphi = 51.544^\circ\text{N}$, $\lambda = 16.130^\circ\text{E}$
 $H = 20:01:32.3$, $M = 2.9$

KSP $\Delta = 79.0\text{km}$
Pg iZ 20 01 45.3 D
Sg eE 01 54.4

OJC $\Delta = 298.0\text{km}$
Pg eZ 20 02 22.8
Sg eE 02 56.8

NIE $\Delta = 380.4\text{km}$
P eZ 20 02 35.5
S eN 03 20.0

NOV 25

$\varphi = 51.544^\circ\text{N}$, $\lambda = 16.132^\circ\text{E}$
 $H = 22:14:23.5$, $M = 2.7$

KSP $\Delta = 79.0\text{km}$
Pg iZ 22 14 36.5 D
Sg eN 14 45.6

RAC $\Delta = 218.6\text{km}$
P eZ 22 15 00.0
S eNE 15 26.0

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OJC	$\Delta = 297.9\text{km}$				
	Pg eZ	22	15	14.3	
	Sg eE		15	49.2	
<u>NOV 27</u>					
	$\phi = 51.448^\circ\text{N}, \lambda = 16.174^\circ\text{E}$				
	$H = 16:10:11.4, M = 3.2$				
KSP	$\Delta = 68.0\text{km}$				
	Pg iZ	16	10	22.6	D
	Sg eE		10	30.9	
RAC	$\Delta = 208.8\text{km}$				
	P eZ	16	10	46.4	
	S eNE		11	09.5	
OJC	$\Delta = 290.3\text{km}$				
	Pn eZ	16	10	51.6	
	Pg eZ		10	58.8	
	Sg eE		11	33.8	
NIE	$\Delta = 371.6\text{km}$				
	P eZ	16	11	13.6	
	S eN		11	57.4	
<u>NOV 29</u>					
	$\phi = 51.544^\circ\text{N}, \lambda = 16.132^\circ\text{E}$				
	$H = 23:47:08.8, M = 2.8$				
KSP	$\Delta = 79.0\text{km}$				
	Pg eZ	23	47	21.7	
	Sg eE		47	31.0	
OJC	$\Delta = 297.9\text{km}$				
	Pg eZ	23	47	58.2	
	Sg eE		48	33.3	
NIE	$\Delta = 380.3\text{km}$				
	(P) eZ	23	48	13.2	
	S eE		48	56.4	
<u>NOV 30</u>					
	$\phi = 51.554^\circ\text{N}, \lambda = 16.101^\circ\text{E}$				
	$H = 04:52:55.4, M = 3.8$				
KSP	$\Delta = 80.5\text{km}$				
	Pg iZ	04	53	08.6	D
	Sg iE		53	18.5	
RAC	$\Delta = 220.8\text{km}$				
	Pn eZ	04	53	28.0	
	eZ		53	32.2	
	S eNE		53	57.3	
OJC	$\Delta = 300.3\text{km}$				
	Pn eZ	04	53	36.7	
	Pg eZ		53	45.3	
	Sg eN		54	21.0	

NIE	$\Delta = 382.7\text{km}$				
	P eZ	04	53	58.9	
	S eE		54	42.7	
KWP	$\Delta = 515.5\text{km}$				
	Pn eZ	04	54	04.4	
	eZ		54	23.9	
	S eNE		55	25.1	
<u>NOV 30</u>					
	$\phi = 51.480^\circ\text{N}, \lambda = 16.101^\circ\text{E}$				
	$H = 05:50:48.4, M = 3.1$				
KSP	$\Delta = 72.3\text{km}$				
	Pg iZ	05	51	00.3	D
	Sg iE		51	08.9	
RAC	$\Delta = 214.9\text{km}$				
	P eZ	05	51	24.9	
	S eNE		51	49.5	
OJC	$\Delta = 296.5\text{km}$				
	Pg eZ	05	51	36.7	
	Sg eN		52	13.0	
NIE	$\Delta = 377.8\text{km}$				
	P eZ	05	51	51.4	
	S eE		52	35.8	
<u>DEC 3</u>					
	$\phi = 51.504^\circ\text{N}, \lambda = 16.148^\circ\text{E}$				
	$H = 06:10:39.1, M = 2.8$				
KSP	$\Delta = 74.5\text{km}$				
	Pg iZ	06	10	51.3	D
	Sg eE		11	00.1	
OJC	$\Delta = 294.8\text{km}$				
	Pg eZ	06	11	28.7	
	Sg eE		12	03.2	
<u>DEC 3</u>					
	$\phi = 51.557^\circ\text{N}, \lambda = 16.103^\circ\text{E}$				
	$H = 17:31:56.3, M = 2.6$				
KSP	$\Delta = 80.8\text{km}$				
	Pg iZ	17	32	09.5	D
	Sg eE		32	19.0	
<u>DEC 5</u>					
	$\phi = 51.411^\circ\text{N}, \lambda = 16.242^\circ\text{E}$				
	$H = 00:29:31.8, M = 2.7$				
KSP	$\Delta = 63.5\text{km}$				
	Pg iZ	00	29	42.2	D
	Sg iE		29	49.9	

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OJC $\Delta = 284.2\text{km}$
Pg eZ 00 30 19.7
Sg eN 30 54.1

DEC 8

$\phi = 51.47^\circ\text{N}$, $\lambda = 16.11^\circ\text{E}$
 $H = 16:42:34$, $M = 3.1$

KSP $\Delta = 71\text{km}$
Pg iZ 16 42 45.9 D
Sg iE 42 54.4

RAC $\Delta = 214\text{km}$
P eZ 16 43 09.7
S eNE 43 35.0

OJC $\Delta = 295\text{km}$
Pn eZ 16 43 16.6
Pg eZ 43 24.4
Sg eN 43 58.8

NIE $\Delta = 377\text{km}$
P eZ 16 43 37.1
S eE 44 20.3

DEC 9

$\phi = 51.44^\circ\text{N}$, $\lambda = 16.12^\circ\text{E}$
 $H = 04:40:01$, $M = 3.0$

KSP $\Delta = 68\text{km}$
Pg iZ 04 40 12.2 D
Sg eE 40 20.3

OJC $\Delta = 293\text{km}$
Pg eZ 04 40 50.6
Sg eN 41 25.3

DEC 10

$\phi = 51.58^\circ\text{N}$, $\lambda = 15.99^\circ\text{E}$
 $H = 23:55:59$, $M = 2.6$

KSP $\Delta = 85\text{km}$
Pg eZ 23 56 13.1
Sg eE 56 23.1

OJC $\Delta = 308\text{km}$
Pg eZ 23 56 50.5
Sg eN 57 27.1

DEC 15

$\phi = 51.445^\circ\text{N}$, $\lambda = 16.169^\circ\text{E}$
 $H = 09:40:30.4$, $M = 2.8$

KSP $\Delta = 67.7\text{km}$
Pg iZ 09 40 41.5 D
Sg eE 40 49.7

OJC $\Delta = 290.5\text{km}$
Pg eZ 09 41 18.2
Sg eZ 41 54.1

DEC 18

$\phi = 51.475^\circ\text{N}$, $\lambda = 16.105^\circ\text{E}$
 $H = 05:51:57.1$, $M = 2.7$

KSP $\Delta = 71.7\text{km}$
Pg eZ 05 52 08.9
Sg eE 52 17.5

OJC $\Delta = 296.0\text{km}$
Pg eZ 05 52 45.8
Sg eN 53 21.1

DEC 19

$\phi = 51.484^\circ\text{N}$, $\lambda = 16.095^\circ\text{E}$
 $H = 21:16:44.1$, $M = 3.0$

KSP $\Delta = 72.8\text{km}$
Pg iZ 21 16 56.0 D
Sg eE 17 04.8

RAC $\Delta = 215.5\text{km}$
P eZ 21 17 20.0
S eNE 17 46.0

OJC $\Delta = 297.0\text{km}$
Pg eZ 21 17 33.7
Sg eN 18 08.4

NIE $\Delta = 378.4\text{km}$
P eZ 21 17 47.3
S eN 18 32.9

DEC 19

$\phi = 51.484^\circ\text{N}$, $\lambda = 16.097^\circ\text{E}$
 $H = 22:20:03.8$, $M = 2.7$

KSP $\Delta = 72.8\text{km}$
Pg iZ 22 20 15.7 D
Sg eE 20 24.1

OJC $\Delta = 296.9\text{km}$
Pg eZ 22 20 53.6
Sg eN 21 28.4

NIE $\Delta = 378.3\text{km}$
P eZ 22 21 06.9
S eN 21 52.7

DEC 24

$\phi = 51.486^\circ\text{N}$, $\lambda = 16.099^\circ\text{E}$
 $H = 12:19:30.5$, $M = 2.9$

KSP $\Delta = 73.0\text{km}$
Pg iZ 12 19 42.5 D
Sg eE 19 51.1

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OJC $\Delta = 296.9\text{km}$
Pg eZ 12 20 20.1
Sg eN 20 54.7

DEC 25

$\phi = 51.495^\circ\text{N}$, $\lambda = 16.103^\circ\text{E}$
 $H = 04:56:30.4$, $M = 2.3$

KSP $\Delta = 74.0\text{km}$
Pg eZ 04 56 42.5
Sg eE 56 51.2

DEC 27

$\phi = 51.450^\circ\text{N}$, $\lambda = 16.173^\circ\text{E}$
 $H = 17:30:22.5$, $M = 2.6$

KSP $\Delta = 68.2\text{km}$
Pg iZ 17 30 33.7 D
Sg eE 30 41.7

OJC $\Delta = 290.5\text{km}$
Pg eZ 17 31 11.1
Sg eE 31 45.3

DEC 28

$\phi = 51.479^\circ\text{N}$, $\lambda = 16.104^\circ\text{E}$
 $H = 16:05:07.8$, $M = 3.0$

KSP $\Delta = 72.2\text{km}$
Pg eZ 16 05 19.6
Sg iE 05 28.2

OJC $\Delta = 296.2\text{km}$
Pg eZ 16 05 57.4
Sg eE 06 32.4

NIE $\Delta = 377.5\text{km}$
P eZ 16 06 10.8
S eE 06 56.5

DEC 30

$\phi = 51.44^\circ\text{N}$, $\lambda = 16.12^\circ\text{E}$
 $H = 04:16:03$, $M = 2.5$

KSP $\Delta = 71\text{km}$
Pg iZ 04 16 14.6 D
Sg eE 16 22.0

OJC $\Delta = 296\text{km}$
Pn eZ 04 16 44.2
Pg eZ 16 52.9
Sg eN 17 28.0

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FEB 20

$\varphi = 51.233^{\circ}\text{N}$, $\lambda = 19.293^{\circ}\text{E}$
H = 05:47:36, M = 2.4

OJC $\Delta = 118.6\text{km}$
Pg eZ 05 47 56.2
Sg eE 48 10.4

NIE $\Delta = 215.0\text{km}$
Pn eZ 05 48 09.8
S eE 48 37.3

KSP $\Delta = 215.4\text{km}$
Pg eZ 05 48 10.5
Sg eN 48 35.6

MAY 30

$\varphi = 51.252^{\circ}\text{N}$, $\lambda = 19.271^{\circ}\text{E}$
H = 12:40:15, M = 3.4

OJC $\Delta = 121.1\text{km}$
Pg eZ 12 40 34.6
Sg eE 40 50.2

RAC $\Delta = 151.0\text{km}$
Pg eZ 12 40 39.6
Sg eNE 40 58.3

KSP $\Delta = 214.3\text{km}$
Pn eZ 12 40 46.4
Pg eZ 40 50.0
Sn eN 41 10.1
Sg eN 41 14.3

NIE $\Delta = 217.5\text{km}$
Pn eZ 12 40 48.3
Pg eZ 40 51.1
S eN 41 16.2

GKP $\Delta = 264.7\text{km}$
P eZ 12 40 51.6
S eE 41 35.9

KWP $\Delta = 304.2\text{km}$
(Pn) eZ 12 41 02.5
eZ 41 14.0
(Sn) eNE 41 39.2
eNE 41 47.2

SUW $\Delta = 406.5\text{km}$
Pg eZ 12 41 21.5
Sg eNE 42 16.3

MAY 31

$\varphi = 51.243^{\circ}\text{N}$, $\lambda = 19.289^{\circ}\text{E}$
H = 23:43:35, M = 2.0

OJC $\Delta = 119.7\text{km}$
Pg eZ 23 43 55.2
Sg eE 44 10.1

JUN 02

$\varphi = 51.253^{\circ}\text{N}$, $\lambda = 19.269^{\circ}\text{E}$
H = 03:41:31, M = 2.3

OJC $\Delta = 121.2\text{km}$
Pg eZ 03 41 48.7
Sg eE 42 03.4

KSP $\Delta = 214.1\text{km}$
Pg eE 03 42 04.7
Sg eE 42 28.7

JUN 18

$\varphi = 51.241^{\circ}\text{N}$, $\lambda = 19.254^{\circ}\text{E}$
H = 11:17:53, M = 2.1

OJC $\Delta = 120.3\text{km}$
Pg eZ 11 18 13.3
Sg eE 18 28.3

JUL 01

$\varphi = 51.236^{\circ}\text{N}$, $\lambda = 19.267^{\circ}\text{E}$
H = 14:56:42, M = 2.5

OJC $\Delta = 119.4\text{km}$
Pg eZ 14 57 03.0
Sg eE 57 18.1

KSP $\Delta = 213.6\text{km}$
Pg eZ 14 57 17.1
Sg eN 57 42.1

NIE $\Delta = 215.9\text{km}$
Pg eZ 14 57 19.2
S eN 57 44.4

JUL 01

$\varphi = 51.238^{\circ}\text{N}$, $\lambda = 19.258^{\circ}\text{E}$
H = 21:52:22, M = 2.3

OJC $\Delta = 119.9\text{km}$
Pg eZ 21 52 42.8
Sg eN 52 58.4

KSP $\Delta = 213.1\text{km}$
Pg eE 21 52 57.2
Sg eN 53 21.3

Belchatów 2005

JUL 18

$\varphi = 51.231^{\circ}\text{N}$, $\lambda = 19.257^{\circ}\text{E}$
 $H = 19:00:09$, $M = 2.4$

OJC $\Delta = 119.1\text{km}$
Pg iZ 19 00 28.8 d
Sg eE 00 43.8

KSP $\Delta = 212.9\text{km}$
Pg eE 19 00 42.4
Sg eN 01 08.2

OCT 04

$\varphi = 51.240^{\circ}\text{N}$, $\lambda = 19.257^{\circ}\text{E}$
 $H = 15:40:33$, $M = 2.2$

OJC $\Delta = 120.1\text{km}$
Pg eZ 15 40 54.6
Sg eE 41 09.6

DEC 22

$\varphi = 51.243^{\circ}\text{N}$, $\lambda = 19.244^{\circ}\text{E}$
 $H = 00:38:04$, $M = 2.1$

OJC $\Delta = 120.7\text{km}$
Pg eZ 00 38 24.4
Sg eE 38 39.3

DEC 28

$\varphi = 51.253^{\circ}\text{N}$, $\lambda = 19.266^{\circ}\text{E}$
 $H = 17:00:25$, $M = 2.4$

OJC $\Delta = 121.3\text{km}$
Pg eZ 17 00 45.2
Sg iE 01 00.9

KSP $\Delta = 213.9\text{km}$
Pg eZ 17 01 00.5
S eN 01 26.8

NIE $\Delta = 217.7\text{km}$
Pg eZ 17 01 01.7
S eE 01 27.0

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JAN 03

$\varphi = 49.31^{\circ}\text{N} \pm 0.069$, $\lambda = 19.90^{\circ}\text{E} \pm 0.089$
H = 17:37:07.5 $\pm$ 1.43, M = 2.3 (NIE)

NIE $\Delta = 32.4\text{km}$
 Pg eZ 17 37 14.8
 Sg eN 37 18.7

OJC $\Delta = 101.7\text{km}$
 Pg eZ 17 37 25.8
 Sg eNE 37 37.3

JAN 23

$\varphi = 49.34^{\circ}\text{N} \pm 0.065$, $\lambda = 19.85^{\circ}\text{E} \pm 0.051$
H = 23:33:18.4 $\pm$ 0.80, M = 3.1 (NIE)
 $\varphi_{\text{mac}} = 49.40^{\circ}\text{N}$, $\lambda_{\text{mac}} = 19.92^{\circ}\text{E}$
 $h_{\text{mac}} = 3\text{--}5\text{km}$, $M_{\text{mac}} = 3.2$, $I_o = 4\text{--}5$

NIE $\Delta = 34.8\text{km}$
 Pg eZ 23 33 25.1
 Sg eN 33 29.4

OJC $\Delta = 98.1\text{km}$
 Pg iZ 23 33 35.9 c
 Sg eE 33 47.8

RAC $\Delta = 145.6\text{km}$
 Pg eZ 23 33 45.1
 Sg eNE 34 03.5

KWP $\Delta = 210.1\text{km}$
 Pn eZ 23 33 54.2
 Sn eNE 34 21.0

KSP $\Delta = 305.2\text{km}$
 Pn eEZ 23 34 10.6
 (PmPPmP) eNEZ 34 15.2
 Sn eNEZ 34 44.6

JAN 29

$\varphi = 49.35^{\circ}\text{N} \pm 0.068$, $\lambda = 19.90^{\circ}\text{E} \pm 0.082$
H = 17:16:54.0 $\pm$ 1.27, M = 3.4 (NIE)
 $\varphi_{\text{mac}} = 49.40^{\circ}\text{N}$, $\lambda_{\text{mac}} = 19.92^{\circ}\text{E}$
 $h_{\text{mac}} = 3\text{--}5\text{km}$, $M_{\text{mac}} = 3.4$, $I_o = 5$

NIE $\Delta = 31\text{km}$
 Pg eZ 17 17 00.3 c
 Sg eE 17 04.4

OJC $\Delta = 97.2\text{km}$
 Pg eZ 17 17 11.6 c
 Sg eE 17 23.2
 eN 17 23.9

RAC $\Delta = 148.0\text{km}$
 Pg eZ 17 17 21.2
 Sg iNE 17 39.9

KWP $\Delta = 206.3\text{km}$
 Pn eZ 17 17 29.6
 PmP eZ 17 32.3
 Sn eNE 17 55.5

KSP $\Delta = 307.6\text{km}$
 Pn eNEZ 17 17 41.5
 (PmPPmP) eNEZ 17 46.7
 Sn eNEZ 18 14.8
 (SmS) eNEZ 18 21.0

GKP $\Delta = 475.1\text{km}$
 (P) eZ 17 18 17.2

SUW $\Delta = 567.6\text{km}$
 (P) eZ 17 18 17.1
 (S) eNE 19 33.7

FEB 07

$\varphi = 49.33^{\circ}\text{N} \pm 0.072$, $\lambda = 19.89^{\circ}\text{E} \pm 0.083$
H = 06:08:38.8 $\pm$ 1.40, M = 2.7 (NIE)
 $M_{\text{mac}} = 2.6$, $I_o = 3$

NIE $\Delta = 32.4\text{km}$
 Pg eZ 06 08 45.3 c
 Sg iE 08 49.3

OJC $\Delta = 99.4\text{km}$
 Pg eZ 06 08 57.9
 Sg eN 09 10.3

FEB 18

$\varphi = 49.37^{\circ}\text{N} \pm 0.080$, $\lambda = 19.78^{\circ}\text{E} \pm 0.091$
H = 01:32:48.8 $\pm$ 1.13, M = 2.7 (NIE)

NIE $\Delta = 39.2\text{km}$
 Pg eZ 01 32 56.1
 Sg eN 33 01.8

OJC $\Delta = 94.7\text{km}$
 Pg eZ 01 33 07.6
 Sg eN 33 21.6

FEB 18

$\varphi = 49.36^{\circ}\text{N} \pm 0.068$, $\lambda = 19.75^{\circ}\text{E} \pm 0.100$
H = 17:37:15.5 $\pm$ 1.65, M = 2.5 (NIE)

NIE $\Delta = 41.5\text{km}$
 Pg eZ 17 37 24.1
 Sg eN 37 29.7

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OJC $\Delta = 95.9\text{km}$
 (Pg) eZ 17 37 35.7
 (Sg) eN 37 49.5

FEB 22

$\varphi = 49.30^\circ\text{N} \pm 0.069$, $\lambda = 19.89^\circ\text{E} \pm 0.083$
H = 20:55:25.9 $\pm$ 1.34, M = 2.6 (NIE)

NIE $\Delta = 33.5\text{km}$
 Pg eZ 20 55 32.8
 Sg eN 55 37.2

OJC $\Delta = 102.7\text{km}$
 Pg eZ 20 55 45.3
 Sg eE 55 57.3

APR 03

$\varphi = 49.30^\circ\text{N} \pm 0.069$, $\lambda = 19.92^\circ\text{E} \pm 0.091$
H = 02:05:22.4 $\pm$ 1.47, M = 2.4 (NIE)

NIE $\Delta = 31.5\text{km}$
 Pg eZ 02 05 29.3
 Sg eN 05 33.7

OJC $\Delta = 102.9\text{km}$
 Pg eZ 02 05 42.5
 Sg eNE 05 54.0

MAY 01

$\varphi \approx 49.4^\circ\text{N}$, $\lambda \approx 19.9^\circ\text{E}$
H $\approx$ 15:36:40, M = 2.3 (NIE)

NIE $\Delta \approx 30\text{km}$
 Pg iZ 15 36 45.6 c
 Sg eN 36 49.7

OJC $\Delta \approx 92\text{km}$
 Pg eZ 15 36 59.9
 (Sg) eE 37 12.2

MAY 01

$\varphi \approx 49.4^\circ\text{N}$, $\lambda \approx 19.9^\circ\text{E}$
H $\approx$ 16:17:00, M = 2.1 (NIE)

NIE $\Delta \approx 30\text{km}$
 Pg iZ 16 17 05.2 c
 Sg eN 17 09.4

OJC $\Delta \approx 92\text{km}$
 Pg eZ 16 17 19.3
 Sg eE 17 31.8

JUN 02

$\varphi = 49.34^\circ\text{N} \pm 0.068$, $\lambda = 19.85^\circ\text{E} \pm 0.062$
H = 07:43:24.2 $\pm$ 0.97, M = 3.2 (NIE)
 $\varphi_{\text{mac}} = 49.40^\circ\text{N}$, $\lambda_{\text{mac}} = 19.92^\circ\text{E}$
 $h_{\text{mac}} = 3\text{--}5\text{km}$, $I_o = 5$

NIE $\Delta = 34.8\text{km}$
 Pg eZ 07 43 31.5 c
 Sg iN 43 35.9

OJC $\Delta = 98.1\text{km}$
 Pg eZ 07 43 42.5 c
 Sg eE 43 54.7

RAC $\Delta = 145.6\text{km}$
 P eZ 07 43 52.0
 Sg eNE 44 10.7

KWP $\Delta = 210.1\text{km}$
 (Pn) eZ 07 44 01.8
 PmP eZ 44 03.1
 SmS eNE 44 27.3

KSP $\Delta = 305.2\text{km}$
 Pn eZ 07 44 13.0
 (PmPPmP) eNEZ 44 18.8
 Sn eE 44 44.8
 (SmS) eN 44 52.6

JUN 13

$\varphi = 49.31^\circ\text{N} \pm 0.069$, $\lambda = 19.87^\circ\text{E} \pm 0.077$
H = 08:59:04.3 $\pm$ 1.32, M = 2.6 (NIE)

NIE $\Delta = 34.5\text{km}$
 Pg eZ 08 59 11.9
 Sg eNE 59 16.2

OJC $\Delta = 101.5\text{km}$
 Pg eZ 08 59 22.8
 Sg eE 59 34.2

JUN 28

$\varphi \approx 49.4^\circ\text{N}$, $\lambda \approx 19.9^\circ\text{E}$
H $\approx$ 13:57:10, M = 2.4 (NIE)

NIE $\Delta \approx 30\text{km}$
 Pg eZ 13 57 16.8
 Sg eN 57 20.7

OJC $\Delta \approx 92\text{km}$
 (Pg) eZ 13 57 28.8
 Sg eE 57 39.7

Western Carpathians 2005

AUG 24

$\varphi = 49.33^\circ\text{N} \pm 0.068$, $\lambda = 19.90^\circ\text{E} \pm 0.074$
H = 15:46:10.1 $\pm$ 1.26, M = 2.8 (NIE)

NIE	Δ = 31.7km				
	Pg eZ	15	46	16.9	
	Sg eNE		46	21.0	

OJC	Δ = 99.5km				
	Pg eZ	15	46	28.1	
	Sg eE		46	40.1	

AUG 25

$\varphi = 49.33^\circ\text{N} \pm 0.090$, $\lambda = 19.91^\circ\text{E} \pm 0.087$
H = 01:44:22.6 $\pm$ 1.46, M = 2.4 (NIE)

NIE	Δ = 31.0km				
	Pg eZ	01	44	29.7	
	Sg eN		44	33.6	

OJC	Δ = 99.5km				
	Pg eZ	01	44	41.0	
	Sg eNE		44	52.8	

AUG 27

$\varphi = 49.36^\circ\text{N} \pm 0.061$, $\lambda = 19.92^\circ\text{E} \pm 0.080$
H = 14:44:12.7 $\pm$ 1.39, M = 2.6 (NIE)

NIE	Δ = 29.4km				
	Pg eZ	14	44	19.2	
	Sg eN		44	23.1	

OJC	Δ = 96.2km				
	Pg eZ	14	44	30.2	
	Sg eE		44	42.1	

AUG 27

$\varphi = 49.31^\circ\text{N} \pm 0.069$, $\lambda = 19.91^\circ\text{E} \pm 0.091$
H = 14:48:17.4 $\pm$ 1.46, M = 2.3 (NIE)

NIE	Δ = 31.8km				
	Pg eZ	14	48	24.5	
	Sg eN		48	28.4	

OJC	Δ = 101.7km				
	Pg eZ	14	48	35.9	
	Sg eE		48	47.5	

AUG 27

$\varphi = 49.31^\circ\text{N} \pm 0.068$, $\lambda = 19.91^\circ\text{E} \pm 0.089$
H = 22:33:19.6 $\pm$ 1.44, M = 2.2 (NIE)

NIE	Δ = 31.8km				
	Pg eZ	22	33	26.8	
	Sg eNE		33	30.7	

OJC	Δ = 101.7km				
	Pg eZ	22	33	38.2	
	Sg eE		33	49.8	

AUG 28

$\varphi \approx 49.4^\circ\text{N}$, $\lambda \approx 19.9^\circ\text{E}$
H $\approx$ 10:30:20, M = 2.1 (NIE)

NIE	Δ $\approx$ 30km				
	Pg eZ	10	30	27.4	
	Sg eNE		30	31.2	

OJC	Δ $\approx$ 92km				
	(Pg) eZ	10	30	38.7	
	(Sg) eN		30	50.6	

AUG 28

$\varphi \approx 49.4^\circ\text{N}$, $\lambda \approx 19.9^\circ\text{E}$
H $\approx$ 10:34:15, M = 2.0 (NIE)

NIE	Δ $\approx$ 30km				
	Pg eZ	10	34	21.0	
	Sg eNE		34	24.8	

OJC	Δ $\approx$ 92km				
	(Pg) eZ	10	34	32.6	
	(Sg) eN		34	44.2	

NOV 06

$\varphi = 49.30^\circ\text{N} \pm 0.068$, $\lambda = 20.50^\circ\text{E} \pm 0.234$
H = 14:44:26.3 $\pm$ 1.54, M = 2.5 (NIE)

NIE	Δ = 19km				
	Pg iZ	14	44	31.1 c	
	Sg eE		44	35.6	

OJC	Δ = 114.4km				
	Pg eZ	14	44	46.3	
	Sg eN		45	00.9	

DEC 06

$\varphi = 49.30^\circ\text{N} \pm 0.074$, $\lambda = 20.57^\circ\text{E} \pm 0.150$
H = 11:40:25.3 $\pm$ 1.35, M = 2.4 (NIE)

NIE	Δ = 22.9km				
	Pg eZ	11	40	32.4	
	Sg eE		40	36.8	

OJC	Δ = 116.7km				
	(Pg) eZ	11	40	45.5	
	(Sg) eE		41	00.2	