

Workhorse Proteus ADCP Your Instrument for the Changing Ocean

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Abstract

Acoustic Doppler Current Profilers (ADCPs) measure the relative velocity between the instrument and a group of scatterers in the water column by transmitting acoustic pulses along multiple beams that point in different directions and measure the Doppler shift of the acoustic signal that is scattered back towards the instrument in each beam. There exists a large and diverse set of applications for ADCPs—each of the applications can benefit from different instrument configurations and tradeoffs; this tradespace can, at a high level, be partitioned into the following variables: size, power, range, variance, resolution, accuracy, and features. A new Doppler-sonar platform called Proteus has been developed, with the objective to expand the existing ADCP tradespace. Several new improvements and features have been introduced in this platform, including reduced size, reduced power consumption, configurable transmit power, frequency agility, linear IQ data, and an integrated attitude and heading reference system (AHRS), to name a few. A new Workhorse Proteus line of ADCPs, built on the Proteus platform, inherit the data-quality, reliability, and many other aspects of the trusted legacy Workhorse while leveraging the latest in technology. Test results are available, demonstrating the improvements and new features of the 300 kHz Workhorse Proteus ADCP.