A Modular Approach for Sensor Integration on the REMUS Vehicle

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Abstract: This paper describes the development of a standard for integrating environmental sensors onto the Remote Environmental Monitoring UnitS (REMUS) unmanned underwater vehicle (UUV). The integration will follow a modular approach by placing additional body sections between the Acoustic Doppler Current Profiler (ADCP) module and nosecone. New sensors can use the input interface provided on the REMUS for the Optical Backscatter. Most sensors can be mated with the vehicle via an intermediary collar device designed by SSC-SD along with a presure vessel module or custom mounted on into a "dummy" nosecone. In addition to the physical integration, a generic NMEA 183 software interface has been developed in cooperation with Woods Hole Oceanographic Institution.