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Calibrations for Long-Term Dissolved Oxygen Measurements on CUGN Gliders

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Abstract (Poster)

The California Underwater Glider Network (CUGN) is a long-term monitoring glider network with currently over 10 years of temperature, salinity, and velocity data. Since 2017, gliders have carried a Seabird 63 dissolved oxygen sensor as part of their payload. Since dissolved oxygen sensors are known to drift after their factory calibration, it is desirable to have a correction or calibration procedure in place while collecting observations. CUGN glider missions are 3 months in duration, so the sensors can be calibrated directly before and after missions. We present our two-point calibration procedure and initial measurements of instrument drift over time. The calibration method should be applicable in general to repeatedly deployed and recovered oxygen sensors on autonomous platforms.