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Evaluation of a lifetime-based optode to measure oxygen in aquatic systems

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Abstract:

In this paper we evaluate the performance of a commercially available life-time based optode and compare it with data obtained with other methods. A set of 11 different tests including targeted laboratory evaluations and field studies were performed covering a wide range of situations from shallow coastal waters and waste water treatment plants to abyssal depths. The principal conclusion reached is that this method, due to high accuracy (±2 µM); long-term stability (more than 20 months); lower fouling sensitivity; no pressure hysteresis and limited cross sensitivity, is overall more suitable for oxygen monitoring than other methods.

Key-words: Aquatic systems, oxygen, measure, lifetime-based optode