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置于大型浮标内的水质参数长期测量系统的设计及应用

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摘要:

为有效解决海洋生物的附着污染问题, 延长各种海洋仪器的使用寿命, 设计了一种新型的海洋环境连续监测系统。该系统放置在大型海洋资料浮标内, 采用海水抽样测量方法, 将海水抽取到浮标舱内的容器中测量, 而后使用消毒液和清水对容器和传感器进行消毒和清洗。系统通过定点连续监测将数据传输到岸站, 与目前浮标常用仪器比测得出, 所采集数据稳定可靠。该系统能够将水质传感器的寿命至少延长一年, 并提高其长时间测量的准确度和可靠性。

关键词: 海洋资料浮标 水质参数测量 海生物附着

A long term water quality monitoring system embedded in a large buoy

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Abstract:

This paper presents a new ocean environment continuous monitoring system to solve marine biofouling problem and to increase the lifetime of oceanographic instrumentations. The system is embedded in a large ocean data buoy and pumps seawater into a container to measure data with seawater sampling method. The system then washes the container and sensors with disinfectant and fresh water. The monitoring data is transmitted to a onshore control center and compared with that of the common instrumentations. Experiments show that the system can extend the lifetime of a water quality sensor to at least one year and improve its long term accuracy and reliability.

Keywords: ocean data buoy water quality monitoring marine biofouling

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