

深海海底观测网络信息采集监测系统设计与实现

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摘要：

设计了一套深海海底观测网络信息采集监测系统。提出了一种由监控中心层、传输主干网层和采集子网层构成的监测系统分层总体结构，并设计了相应的信息采集通信协议及控制策略。进行了高压环境下的通信实验，实验结果表明在40MPa的压力下，监测系统能正常工作，实验测试数据亦表明系统能用于深海海底观测网络的实时信息采集监测。

关键词：海底观测网络; 接驳盒; 信息采集; 监测系统

Design and Implementation of Information Acquisition and Monitoring System of Deep Seafloor Observatory Network

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Abstract:

A suit of information acquisition and monitoring system of deep seafloor observatory network was designed. A sort of layered general architecture of the monitoring system was presented, which is composed of the control center layer, the transmission backbone network layer, and the acquisition subnet layer. The communication protocol and the control strategy for information acquisition were designed accordingly. Communication experiments were performed at high pressure, and the experiments results manifest that the monitoring system can work normally at 40 MPa. The experiments test data show also that the system can be used for the real-time information acquisition and monitoring for deep seafloor observatory network.

Keywords: seafloor observatory network; junction box; information acquisition; monitoring system

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