



## 水下移动平台数据采集和传输系统设计

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摘要：

为实现水下环境的实时监测和数据采集，设计并实现了一套应用于水下传感网络的AUV (Autonomous underwater vehicle) 移动平台数据采集和传输系统。系统采用双MCU机制对采集数据进行分布式处理，利用合理的存储和通信帧格式及ARQ(Automatic Repeat Quest)协议保证数据的有效传输和可靠存储，可对水下环境和AUV内部传感器设备工作状态进行长时间的实时记录和监测。湖上组网试验证明：系统运行稳定，实时性好，满足水下传感网络数据采集和传输及环境监测的要求，对水下传感网络组网技术中的移动节点设计具有较高的参考价值。

关键词：水下传感网络, 环境监测、AUV、数据采集和传输

## underwater mobile platform data acquisition and transmission system design

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**Abstract:**

In order to realize the goal of underwater environment monitoring and data acquisition, this paper designs and implements a set of data acquisition and transmission system based on Autonomous Underwater Vehicle (AUV), which is used in the underwater sensor network. The system adopts two MCU with distributed processing mechanism. It also adopts the suitable frame for data storage and communication and ARQ protocol to make sure the reliable data transmission and storage, which make it possible for a long time environmental and sensor working state monitoring. Several experiment results in lake show that the system not only has good stability and real time but also satisfies the demands of data acquisition and transmission, which is of great value to the mobile node design of the underwater sensor network.

**Keywords:** underwater sensor network, environment monitor, AUV, data acquisition and transmission,

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