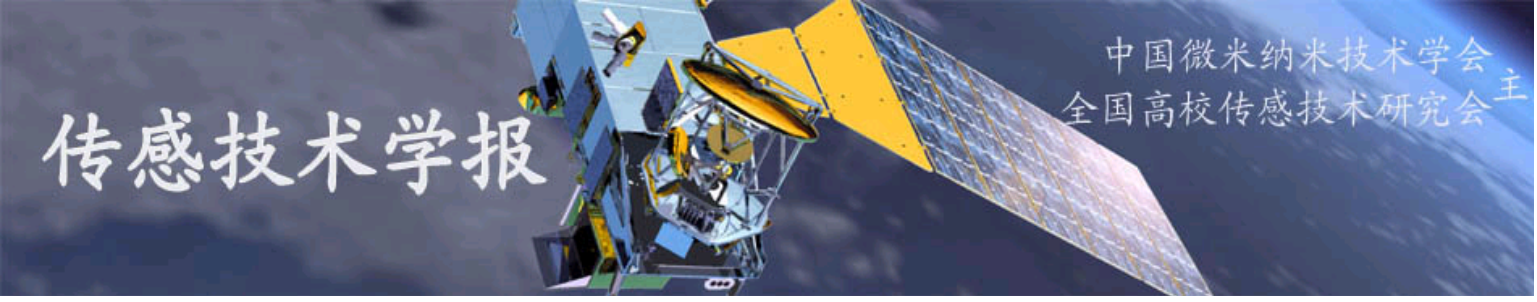

海洋剪切流传感器信号采集系统研究

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摘　要：

剪切流传感器输出信号微弱并受到噪声干扰，需要经过放大与滤波才可以使用，另外传感器信号采集频率相对较高导致存储量增大，为此开发出低功耗、高性据采集系统。该系统由电荷放大器、MSC1210芯片、LPC2114芯片、数据存储卡构成。电荷放大器对传感器信号滤波与转换，MSC1210对信号进行处理采集，L14控制存储卡存储数据。为测试该数据采集系统性能，与数据采集卡PCI-6024E进行对比试验，试验表明该数据采集系统工作可靠满足测量要求。

关键词：剪切流传感器, 数据采集，MSC1210， LPC2114

Research about Data Acquisition System of Shear Sensor for Ocean Turbulence

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Abstract:

Signal produced by shear probe is feeble and easy to be disturbed by noise, so the signal should be amplified and filtered. Acquisition frequency of the signal is relativel high, so storage space is large. Data acquisition system with low power and high precision was developed to satisfy the demand. The system is composed of charge ampl MSC1210 microprocessor, LPC2114 microprocessor and storage card. Charge amplifier transform and process the signal, then the signal is acquired by MSC1210, and LPC2114 save the data by storage card. In order to test the capability of data acquisition system, contrast experimentation is done between it and PCI-6024E data acquisit card. Experiment indicates the data acquisition system is reliable and satisfy the demand.

Keywords: shear sensor, data axquisition, MSC1210, LPC2114

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