

## Development of the remote data transmission system using Iridium satellite applying to field seismic observations in Antarctica

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<http://polaris.isc.nipr.ac.jp/~pseis/>

A remote data transmission system by using satellite telecommunication was developed for the purpose of the field seismic observations in Antarctica. A lack of batteries and extremely low temperature particularly in wintering season in Antarctica lead to decrease the number of stations to be maintained over winter. A remote acquisition system would help to retrieve that kind of precious data in remote places on the globe.

We developed a remote data transmission system using Iridium satellite applying to the field seismic observations. The seismic data recorded by 20Hz sampling are transmitted via Iridium RAM controller, which have TCP/PPP protocol, and LINUX OS. A length of 10min. data with 50kbytes capacity become about 10min. of the transmission time. The system is composed of power supply, timer, Iridium telephone and controller. The estimated total consumption is 14Wh per day, with 20-30 min. of the phone connection time in -40 degree of the air condition.