

Development of the Magneto-Optical Probe for Environmental Magnetic Fields Measurement

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A prototype of the magneto-optical probe (MO probe) on the basis of the Faraday effect has been developed to measure environmental magnetic fields in the low frequency range. In this MO probe, the polarizer and the analyzer, which are optical elements, have been miniaturized and integrated into the body of the MO probe to avoid the output fluctuation caused by bending optical fiber cables. As a result, it is confirmed that the developed MO probe can stably output signals. In addition, the other characteristics of the MO probe were examined in the low frequency range. As a result, it is found that it is effective to use the probe when measuring environmental magnetic fields in the low frequency range.