

Development of the magnetometer with on-board ASIC circuit for SS-520-3 sounding rocket

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In order to find the wavenumber by deploying four magnetometers at edges of the large thin film solar cell (~50m each) of the Solar Sail (Trojan asteroid exploration mission), we are developing an ultra-slim and light magnetometer integrated with signal processing circuits of low power and noises. One of the problems for installing our magnetometers is that the signal process circuits are too large and heavy to deploying into the solar cell. Therefore we developed the 5mm-chip (ASIC; Application Specific Integrated Circuit) for the analog parts of our signal process circuits to achieve both weight saving and downsizing. This magnetometer is planed to perform a flight proof by SS-520-3 sounding rocket experiment. In our presentation, we will show the result of experiment tests, the sensitivity, offset and noise derived by the calibration test at Kakioka geomagnetic observatory, and the time delay of this magnetometer derived by the timing test.