Examination and installation of digital-type fluxgate magnetometer for S310-38 sounding rocket

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Magnetic field is one of the essential physical parameters to study the space plasma and planetary environment. Magnetometers are expected to be installed on many exploratory satellites and to lead to important discoveries in future missions. In the projects of multi-satellites and planetary orbiters, the resources of the satellites will be severely restricted; for the magnetometers for such projects, both weight and power consumption will be strongly required to be reduced. To meet the requirements without degradation of the performance, we have developed a digital-type fluxgate magnetometer in which the pick-up signal processing part including band-pass filter, phase detector and integrator is composed by digital processors. We manufactured a flight model of orthogonal 3-axis magnetometer and installed it to S-310-38 sounding rocket.