

The magnetic field experiment for Bepi-Colombo MMO

Ayako Matsuoka[1], Hidetoshi Shibuya[2], Kiyohumi Yumoto[3], Hideaki Kawano[3], Akimasa Yoshikawa[3], Manabu Shinohara[4], Ryouichi Fujii[5], Tomoko Nakagawa[6], Fumio Tohyama[7], Takao Takahashi[8], Makoto Tanaka[8], Yutaka Tonegawa[9], Tohru Sakurai[10], Masaki Matsushima[11], Hideo Tsunakawa[12], Tsugunobu Nagai[13], Masahiro Hoshino[14]

[1] ISAS, [2] Dep't Earth Sci., Kumamoto Univ., [3] Earth and Planetary Sci., Kyushu Univ., [4] STE Lab., Nagoya Univ., [5] STEL, Nagoya Univ, [6] Communication Engineering, Tohoku Inst. Tech., [7] Space Engineer., Tokai Univ, [8] Information Science Laboratory, Tokai University, [9] Dept. Aero. & Astro., Tokai Univ., [10] Dept. Aero. & Astro. Tokai Univ., [11] Dept. Earth Planet. Sci., Tokyo Inst. Tech., [12] Earth and Planet. Sci., TITECH, [13] Dept.Earth & Planet. Sci., [14] Earth and Planetary Phys., Univ of Tokyo

Bepi-Colombo/MMO MGF team is now investigating the design and performance of the magnetic field experiment to measure fields around Mercury with good accuracy. It consists of two sets of ring-core geometry sensor and electronic system. One of the sensors (outboard) is mounted at the top of the extensible 3-m boom and the another one (inboard) is mounted at the 1/3 distance of the boom length from the top. The dual measurement enables good evaluation of the magnetic interference caused by magnets and currents in the satellite body. The data are originally sampled onboard by the rate of 64 Hz. The data are averaged by an onboard CPU depending on telemetry or data recording rate, and transmitted to the ground.