

The importance of magnetic field measurement at Mercury by Bepi-Colombo spacecraft and the contribution to the planetary science

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The Magnetic field around Mercury is a combination of an intrinsic magnetic field, fields caused by exterior currents, e.g., the magnetopause and the magnetotail current, and induced fields. One of the major scientific objectives of Bepi-Colombo/MMO is the accurate measurement of the Hermean magnetic field and its separation into the aforementioned sources. For planetary science, an accurate evaluation of the intrinsic magnetic moment is essential to discuss the interior structure of Mercury and the generation mechanism of the intrinsic magnetic moment. As far as space science is concerned, the determination of the magnetospheric shape, studies of plasma acceleration mechanism, and the interaction of the Hermean magnetosphere with the solar wind are natural topics.