

水星磁気圏探査機MMO搭載MIAセンサー部の偏心性の検討

On relatively shifted centers of the analyzer electrodes of MIA onboard Mercury Magnetospheric Orbiter

*三宅 互¹、宮崎 祥一¹、斎藤 義文²、横田 勝一郎²

*Wataru Miyake¹, Shoich Miyazaki¹, Yoshifumi Saito², Shoichiro Yokota²

1.東海大学工学部、2.JAXA宇宙科学研究所

1.Tokai University, 2.ISAS/JAXA

MIA (Mercury Ion Analyzer) on board MMO employs a top-hat electrostatic analyzer, which measures three dimensional velocity distribution of solar wind and magnetospheric ions around Mercury. The analyzer uses axisymmetric toroidal electrodes and is designed to have no dependence in its characteristics on azimuthal direction of incident ions. However, our ground calibration experiments have revealed that it has a slight dependence. We have tried to explain the dependence by means of model calculations. We assume that all parts of electrode are manufactured precisely but their centers are not exactly coincident through assembling process. Our result of model calculations suggests that relative shift of 0.1 to 0.2 mm may be included and can be responsible for the azimuthal characteristics of the analyzer.

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