３次元電位分布計算による「みお」搭載MIAのトップハット分析器特性の非対称性の解釈

Interpretation on slight asymmetry of analyzer characteristics of MIA onboard the Mio by means of a model calculation of 3-D potential distribution

*三宅 亙[1]、斎藤 義文[2]、横田 勝一郎[3]
*Wataru Miyake[1], Yoshifumi Saito[2], Shoichiro Yokota[3]

1. 東海大学工学部、2. 宇宙科学研究所、3. 大阪大学
1. Tokai University, 2. ISAS, 3. Osaka University

MIA (Mercury Ion Analyzer) on board Mio employs a top-hat electrostatic analyzer, which has 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 three dimensional model calculations. We assumes that all parts of electrode are manufactured precisely. Our results shows that a slight relative rotation (or tilt) of electrodes can lead to a slight dependence on incident azimuthal direction similar to that obtained from the ground experiments.

キーワード：みお、トップハット静電分析器、水星イオン分析器
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