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## Deceleration Characteristics of Multicharged Ion Beams from Electron Cyclotron Resonance Ion Source

At present it is necessary the satellite lifetime 10-15 years for operate in space. Xenon is used as fuel for ion engines of satellites. There are problems of accumulated damages at irradiation and sputtering by low energy Xe ion from the engine. It is required to construct experimentally sputtering yield of ion beams in the low energy region from several hundred eV to 1keV. We are trying to investigate experimentally sputtering yield on satellite component by irradiating the low energy Xe $q^+$  ion beams. We use the electron cyclotron resonance ion source (ECRIS, Osaka University), which produces a various species of ion beams. In the irradiation experiments, it is necessary to decelerate the beam energy to several hundred eV. It is found we cannot neglect the contribution of the space potential of the plasma in the ion source of several tens eV. In this study, we also measured the plasma parameters and ion beam deceleration characteristics in operating conditions on ECRIS.

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