

PEM022-P01

Room: Convention Hall

Time: May 23 17:15-18:45

Investigation of relationship between spacecraft potential and electron density by AKEBONO satellite

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We have examined the relationship between the spacecraft potential of AKEBONO satellite and the electron density derived from the plasma waves during the period from May 1989 to August 1990 and an empirical formula was obtained to show their relation in the region where the electron density from 10^0 to 10^4 cm^{-3} .

Consequently, we can estimate the electron number density along the AKEBONO satellite orbit.

Keywords: spacecraft potential, electron density, plasma sphere