

Dynamics of the duskside Jovian magnetopause: Ulysses analysis

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We present dynamics of the duskside Jovian magnetopause during the period of the Ulysses encounter. It is well known that energetic ion anisotropy near the magnetopause is produced by spacial gradient of ions depending on the distance from a spacecraft to magnetopause. Energetic particle instruments onboard Ulysses observed strong anisotropies of MeV protons near the magnetopause. We showed that the observed anisotropies were produced by the sharp flux gradient at the magnetopause. We constructed a model to reproduce the observed anisotropies. By comparing the model anisotropies with the observations, we derived the magnetopause distance from Ulysses, then speed of magnetopause. We found the maximum inward speed of about 150km/s and following rapid change to 10km/s outward within 2 hours.