



Energetic particle acceleration in Saturn's magnetotail: statistics and composition

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Remote observations from the Cassini orbiter of substorm-like activity at Saturn, using energetic neutral atom (ENA) imaging by the magnetospheric imaging instrument's ion and neutral camera (MIMI/INCA) in the energy range ~ 3 to ~ 200 keV, has revealed a tendency for efficient energization of oxygen relative to hydrogen in energetic ion acceleration events. Magnetotail acceleration events sufficiently large to be imaged by INCA are not common. If these are magnetotail substorms (Mitchell et al, 2005), they appear to occur much less frequently at Saturn than they do at Earth. Unlike events inside of Titan's orbit, these events show no tendency toward modulation at Saturn's rotation period. Implications for current models will be discussed.

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