

## Galileo observations of Jovian tail reconnection

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Magnetic reconnection in planetary magnetospheres plays important roles in energy and mass transfer in the steady state, and also possibly in transient large-scale disturbances. Our detailed case study has shown that a reconnection jet front in Jovian magnetotail was associated with the front thickness of the order of ion inertial length, sub-Alfvénic ion flow, density depletion, and particle energisation. Although these characteristics are similar to the terrestrial jet fronts, their generality in the Jovian magnetosphere has not been clarified, since the above result was based on a single event study. Therefore we examined strong north-south magnetic field events in the Jovian outer magnetosphere. Through the analyses with plasma velocity and density data, we found the clear dawn-dusk asymmetry; both northward and southward magnetic events in the dawn side show reconnection jet front signatures (tailward and sunward propagating, respectively), whereas dusk side events do not. This result suggests that the Jovian tail X-line is absent in the dusk side or located much further down tail compared to the dawn side.

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