

Distant Tail Response to the Near-Earth Magnetic Storms:
ISEE-3

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We have examined the ISEE-3 distant tail data during the five strongest magnetic storms ($Dst < -100$ nT) and identified the tail signatures to the near-earth storms. During the storm onsets, the strong solar wind pressure fluctuations moved the spacecraft in and out of the tail. We detect many plasma sheet jetting events which have a quasiperiodic (-3 hour) characteristic. The tail jetting have been observed in both storm main and recovery phases. One remarkable feature of the jettings is that very strong earthward flows (up to 1200 km/s) are detected (for the first time) at $x \leq -200 R_e$. The preponderance of such earthward flowing events indicates that during magnetic storms, magnetic reconnection is occurring at locations well beyond the distance of ISEE-3, contrary to the theoretical picture presently in existence. Possible interpretation of this will be discussed.

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