

Thin current sheet structure near the X-line in substorms

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We have found that the intense current sheet is concentrated around the neutral sheet. It is comparable to the ion inertial length.

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At the same time, the induced magnetic field B_y is observed around this boundary and inward field-aligned current is observed in the inner region of the plasma sheet and outward current is observed in the outer region of the plasma sheet, suggesting the existence of the Hall-current system.

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