

Fine Structure of Auroral Electrojets in the Harang Discontinuity Region Before a Break-up Onset

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By using measurement results of geomagnetic variations at the Greenland and Scandinavian meridional magnetic station chains, the layered structure of auroral electrojets has been shown. The multilayering of field-aligned currents in the vicinity of the Harang discontinuity at the preliminary substorm phase is shown from satellite measurements (Watanabe and Iijima, 1993). A scheme of ionospheric current distribution in a substorm center during late preliminary phase and at the beginning of the expansion phase formation has been suggested. This scheme explains a number of regularities in the space-time distribution of the fine structure of auroral electrojets before the beginning of expansion phase development in the region of expected substorm center.

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