

Dynamics of the ionospheric convection during disturbed periods observed by the mid-latitude SuperDARN radars

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Sub-Auroral Polarization Streams (SAPS) are one of the main disturbance signatures in the ionospheric convection at subauroral latitudes. Their generation is related to a wide variety of factors such as ring current distribution, solar wind / magnetospheric conditions, ionospheric conductivity etc. In this paper we discuss one event of the SAPS signature observed by the SuperDARN Hokkaido East radar on April 5, 2012. Simultaneously with the enhancement / decay of the SAPS, the mid-latitude SuperDARN radars in the North America observed the corresponding intensification / weakening of the convective flows in the postmidnight sector. There is no obvious solar wind / IMF condition changes, or substorm / storm developments directly related to the convection enhancements. This suggests that the SAPS might be generated in the framework of the global convection, not triggered by a simple factor. Results of detailed discussion / interpretation will be presented.

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