

## Ionospheric convection during disturbed periods observed by the SuperDARN radars in the premidnight and postmidnight sectors

# Nozomu Nishitani[1]; Tomoaki Hori[1]; Joseph B.H. Baker[2]; John M. Ruohoniemi[3]; Simon G. Shepherd[4]; William A. Bristow[5]; Ayako Matsuoka[6]; Mariko Teramoto[7]

[1] ISEE, Nagoya Univ.; [2] Space@VT; [3] ECE, Virginia Tech; [4] Dartmouth College; [5] UAF; [6] ISAS/JAXA; [7] ISEE, Nagoya University

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. Expansion of the Super Dual Auroral Radar Network (SuperDARN) field of view into mid-latitudes and the launch of the inner magnetosphere spacecraft made it possible to study the SAPS dynamics in the framework of the global convection and magnetospheric disturbances. In this paper we discuss one event of the SAPS and concurrent convection signatures on Apr 4, 2017, observed by the mid-latitude SuperDARN radars. Together with the enhancement / decay of the SAPS in the premidnight sector, the mid-latitude SuperDARN radar observed the intensification / weakening of the eastward convective flows in the postmidnight sector. Furthermore, these eastward flows were enhanced together with the magnetic perturbations observed by the ERG / Arase satellite located in the same local time sector, probably associated with the substorm expansion onset. Detailed study of the ionospheric convection dynamics including SAPS, as well as their relation to solar wind / IMF condition changes, or substorm / storm developments will be reported.