

Simultaneous measurement of pulsating aurora with ground-based all-sky TV camera and SuperDARN

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Simultaneous measurements of pulsating aurora with all-sky TV camera at Tjornes (66.20N,17.12W) in Iceland and SuperDARN Iceland East radar (63.77N, 20.54W) were made in November 2005. During the interval 02:34 and 03:23 UT on November 25, 2005, pulsating aurora, with pulsating frequency was about 8 sec, was continuously observed with ATV at Tjornes. The SuperDARN Iceland East radar observed E region backscatter echoes co-located with the pulsating aurora. In addition, quasi-periodic oscillations can be identified in the Doppler shifts of the radar backscatter within the pulsating aurora. The period of the fluctuations in the Doppler shifts is roughly the same as those of the pulsating aurora. We will investigate the relationship between the radar echoes and pulsating aurora in detail, and will discuss spatial structures of the electromagnetic features surrounding the pulsating aurora.