Dynamics of Pi3 geomagnetic and riometer pulsations during auroral activations (February 9, 1997)

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Auroral activation on February 9, 1997 have been analysed using the Scandinavian data. It was found that the brightenings of optical auroras were collocated with localized in latitude bursts of pulsating riometer absorption and Pi3 geomagnetic pulsations. The strongest westward directed electrojet currents and the footpoint of the upward directed field aligned currents (FAC) related with the auroral brightening were observed in the same region as the largest amplitude of the pulsations and their polarization change. The spectra of geomagnetic and absorption pulsations were similar. From the basis of ground-based observations alone, it is difficult to say whether the energetic particle precipitation (riometer absorption) was modulated by the geomagnetic pulsations or whether the geomagnetic pulsations were caused by varying ionospheric currents controlled by the precipitating particle intensity.