

静止軌道で調べた場合のオーロラブレイクアップ

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An aurora break-up event as observed by all-sky image and by magnetometer at geosynchronous altitude

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Abstract. An auroral precipitation event recorded during 0500 - 0530 UT of 17 January, 1986 by all-sky camera at Shamattawa (SHM; 55.9 ° N, 92.1 ° W in geographic coordinates) during Global Aurora Dynamic Campaign (GADC; Jan. of 1986) was examined by comparing with the magnetic field data as observed by geosynchronous satellites, GOES 5 and GOES 6 in the adjacent meridian and by ground magnetometer at the dip-equator, Huancayo, in the midnight sector. An initiation of the magnetic field changes at the geosynchronous altitude and at the dip-equator was seen to occur with no significant time delay at an initial enhancement of the particle precipitation in the all-sky image. It is found that the D component (positive eastward in the dipole coordinates) of the GOES 5 and 6 position changes inversely when the precipitation began. The dominant frequency in the D component at GOES 5 meridian did not match that at the GOES 6, while the wave form of the H component (anti-parallel to the dipole axis) of the satellite data matched the ground H component (positive northward) at the dip-equator. The field perturbations outlined above and the associated particle precipitation as seen in the all-sky image will be discussed in the framework of the MHD system.