オーロラ動パターンと静止軌道プラズマ特性の相関（III）

Comparison of auroral dynamic images with plasma characteristics at the geostationary orbit

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For finding evidences of magnetosphere-ionosphere coupling effects pin point comparisons are continued between dynamic pattern of auroral images taken by all-sky TV cameras and plasma characteristics in reference of key parameters observed by LANL 1989-49 satellite at the geostationary orbit whose foot print is about 300km west of the TV camera site, Dome 2, Yukon. In this study arrangement of analyzed results is focused to classify the motion in auroral patterns. Topics are also expected from the observation in January and February 1999, when we had strong and medium magnetic storms.

For finding evidences of magnetosphere-ionosphere coupling effects pin pointcomparisons are continued for testing by means of cross-correlation analysisbetween dynamic pattern of auroral images taken by high sensitive all-sky TVcameras and plasma characteristics in reference of key parameters observed by LANL 1989-49 satellite at the geostationary orbit whose foot print is to be located about at 300 km in the west of the all-sky TV camera site, Dome 2 nearby Dawson City. Yukon. Total light images taken by a camera with photo sensitive surface with multi-alkali material which is more sensitive in red lights are mainly used because of its good sensitivity without losing time resolution and with less quantum noises. Another all-sky TV camera which is selectable a spectral line of 557, 630, 656, and 670 [nm] is used to obtain gross features of energy and species of precipitation particles exciting auroral lights despite of the low time and/or spatial resolution of data due to frame integration for smoothing out quantum noises. In this study arrangement of analyzed results is specially focused to classification of motion in auroral patterns. Topics are also expected from the latest observation campaigns in January and February 1999 in which we had strong and medium magnetic storms in the up-going phase of the solar activity after a couple of the quietest years.