

Latitudinal Transmission of DP-2 type Magnetic Fluctuations

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In order to examine the parallel plane transmission line model composed of conductive Earth and ionosphere for explaining quasi-periodic DP-2 type magnetic fluctuations, which occur coherently at auroral and equatorial latitudes with time scales from 30 to 40 minutes (T. Kikuchi et al., 1996), we have analyzed in this paper geomagnetic field data from 210(deg) magnetometer meridian chain stations together with HFD(HF Doppler) data obtained in mid-latitudinal stations, Chofu and Kure, for about 1 year from January to December 1994.

As a result, we have found several DP-2 events that coincide with the above transmission model.

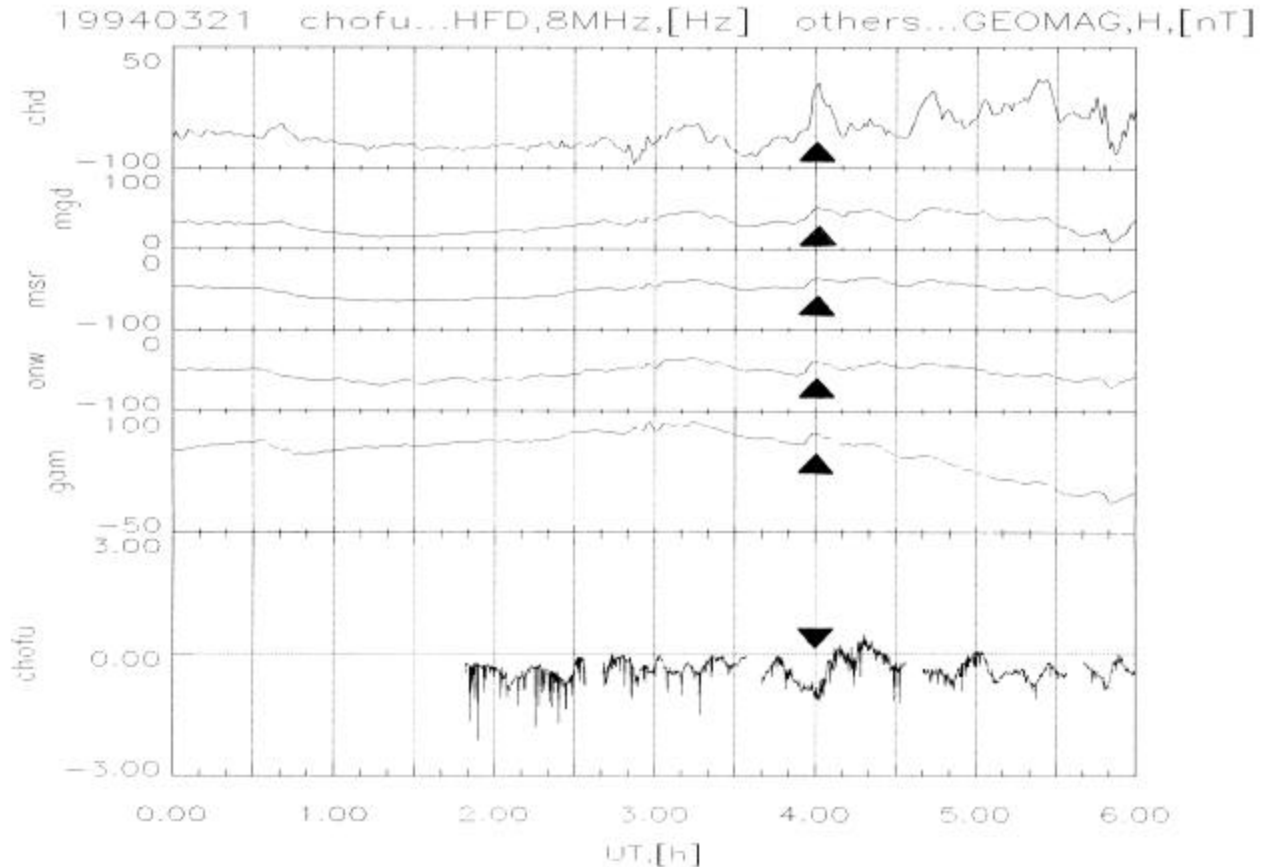


図1 1994年3月21日の変動例。縦軸は変動値(地磁気は[nT], HFDは[Hz])、横軸はUT (LT=UT+9)。上から順に極域から赤道域まで並ぶチョクルダフ(chd), マガダン(mgd), 母子里(msr), 女川(onw), グアム(gam)における磁場のH成分、最下段は調布(chofu)におけるHFD変動である。ほぼ同時刻の04:00UT (13:00LT)に変動が観測されている(三角印)。