R008-07

Zoom meeting D : 11/3 AM2 (10:45-12:30)

11:15-11:30

逆と順カルマン渦を介した大域的地球磁気圏のコーヒーレント構造

#蔡 東生 筑波大・シス情

## Global Magnetospheric Coherent Structure based on Inverse and Forward Karman Vortex #DongSheng Cai

ISIS, U Tsukuba

Global magnetospheric coherent structures related to the dynamics of the dayside magnetopause frontier for a northward IMF configuration, are analyzed using global 3D MHD simulations. The main goal is to reach a global synthetic scenario focusing on the formation of 3D unstable/stable structures developed among inside/outside magnetopause and ionosphere in different steps from the dayside to the night side. They are: (i) the transverse Kelvin-Helmholtz (K-H) vortexes are generated along and outside the magnetopause near the dayside region, while other K-H vortexes are generated along and inside the magnetopause; (ii) these vortexes are unstable in one each row, adjust, and evolve into a marginal stable Karman vortex street near the equator; (iii) the inside K-H vortexes extends toward northward/southward to form inverse Karman vortex street in north/south ionosphere; (ii) all rows of vortexes are shed off soon from the magnetopause/ionosphere, respectively; (iv) these forward/inverse Karman vortexes soon are reformed into stable longitudinal (stream-wise) coherent vortexes and survive for long time over large distances x~130 to 140Re in the magnetotail. All these processes lead to the global and consistent formation of magnetospheric coherent structures.

