

The plasmaspheric oscillation estimated from the coherent Pc 3 on the ground

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We have statistically analyzed Pc 3 geomagnetic pulsations observed at the 210 degree magnetic meridian (MM) network stations, which are located over a wide range of latitude ($L=1.6-5.5$). Power spectral density, coherence, and phase difference for each station were computed by FFT (fast Fourier transform) method. The two-dimensional equivalent current estimated from the magnetic field perturbations on the ground is similar to the DP2-type current system which has two vortices at high latitude. This result indicates that Pc 3 pulsations on the ground may be caused by the fluctuating ionospheric current induced by the Alfvén waves propagating to the high-latitude ionosphere.

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