

## Characteristics of Night-time and Daytime Pi 2 Pulsations Observed along the 210 Magnetic Meridian

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In order to clarify the generation and/or propagation (transfer) mechanisms of daytime Pi 2 pulsations from the auroral region to the dayside equatorial region, we analyzed the 210 magnetic meridian (MM) data at various latitudes, and statistically clarified global characteristics of Pi 2 pulsations. In totally, 249 Pi 2 events are recognized in one month of data from February, 1995.

32% and 68% of the Pi 2 events are observed in the daytime and at night time, respectively, within this month at the low-latitude station Moshiri (MSR;  $L=1.59$ ). For both occurrence and wave amplitude, there are three maxima at premidnight, slightly post midnight, and prenoon with two minima in the late afternoon and just after sunrise. The amplitudes of three maxima decrease with decreasing magnetic latitude, where the decreasing rates are significantly different at local times of the three maxima. The wave frequency also shows different spectral content and different local time dependence at auroral latitude, and middle to low latitudes. The mid- to low-latitude Pi 2s at night time have an additional higher frequency component compared with the auroral-latitude Pi 2s. The wave frequency of lower-latitude daytime Pi 2s is different from (lower than) the night-time frequency, but similar to the auroral-latitude frequency. The "equatorial enhancement" of daytime Pi 2s agrees with previous studies, except for the large ratio seen in the few hours after sunrise.

On the other hand, the local time dependence of observed equatorial enhancement of daytime Pi 2s can be explained theoretically by invoking the steady state current system model with away-FAC at 22.5 LT and into-FAC at 01 LT at magnetic latitude of 70 deg. (cf. Tsunomura, 1998)

These results suggest that daytime Pi 2s must be directly transmitted from the auroral region through perhaps the ionosphere, rather than being a result of a global cavity resonance.

オーロラ帯から赤道にわたる広い範囲で、昼側のPi 2脈動の励起・伝播機構を明らかにするために、210度地磁気観測網の多点データを用い統計的解析を行った。1995年2月の1ヶ月間の観測データより、249のPi 2を検出した。

解析の結果は、昼側Pi 2が空洞共鳴によるというよりもむしろ、オーロラ帯から電離層経由で伝播してきている事を示している。