

Low-latitude Pi2 pulsations during the intervals of quiet geomagnetic conditions ($K_p < 1$)

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Several case studies reported Pi2 pulsations during the interval of extremely quiet geomagnetic condition ($K_p = 0$). Until now, however, no statistical study has been reported for Pi2 activity during quiet geomagnetic interval. In our study we statistically examine the properties of Pi2 pulsations observed at low-latitude Bohyun (BOH, $L = 1.35$) station in South Korea. 772 Pi2 events were identified for the intervals of K_p less than 1 in 2008 when BOH was on the nightside from 1800 to 0600 local times. Comparing Pi2 parameters and solar wind conditions, it was found that Pi2 frequencies decrease with decreasing solar wind speed. We also found that Pi2 pulsations quasi-periodically occur with about 30-min recurrence time. We will discuss why the Pi2 frequency depends on solar wind speed and what determines the 30-min recurrence time of Pi2 pulsations under quiet geomagnetic conditions ($K_p < 1$).

Keywords: Pi2, Low-latitude, Substorm, Solar wind