

Quasi-periodic poleward-moving waves launched from the equatorial ionospheric anomaly in the 630-nm airglow images

Kazuo Shiokawa[1]; Yuichi Otsuka[1]; Tadahiko Ogawa[2]

[1] STE Lab., Nagoya Univ.; [2] STE Lab., Nagoya Univ

Based on two-years of airglow imaging observation at Kototabang, Indonesia (0.2S, 100.3E, -10.6MLAT), we found quasi-periodic poleward-moving waves in the 630-nm airglow images. The waves have east-west phase fronts, and are likely to be launched from the equatorial ionospheric anomaly. They propagate poleward repeatedly with a velocity of ~300 m/s and a period of ~40 min. They are frequently observed in the northern-hemispheric summer (around June) with an occurrence peak of more than 50 %, but are also observed in other seasons with occurrences of 10-20 %. These features may suggest thermospheric gravity waves as a source, though some explanation is needed for the periodicity and the systematic poleward motion of the waves.