

The ionospheric characteristics correlated to the geomagnetic Sq fields and neutral winds over Taiwan area

*Yu-Jung Chuo¹

1. Department of Information Technology, Ling Tung University

This study is trying to analysis variations of ionospheric characteristics, geomagnetic Sq fields, and the neutral winds at Taiwan. Using hourly data of the H and Z components of the geomagnetic observations and derived from Taiwan observatory in 1999, to calculate the Sq current. The other hand, we calculated the ionospheric total electron content (TEC) by using global positioning satellite system (GPS) data in 1999. Further, we also calculated the thermospheric neutral winds that derived from ionospheric parameters at Taiwan. In this investigation, we show the daily, seasonal and annual variations of geomagnetic Sq fields, NmF2, hmF2, TEC, and neutral winds during the solar quiet period in 1999. Meanwhile, this study also discusses the possible physics processes for the variation of ionosphere corresponding to the geomagnetic Sq fields and neutral winds.

Keywords: ionospheric dynamic, Sq current, neutral winds