Comparison between B0 retrieved from FORMOSAT-3 measurements and ground-based observations at equator

Yu-Jung Chuo¹*

¹Depart. of INSA, Ling Tung University

This study presents the results of a comparison of three ionospheric profile parameters, B0, NmF2, and hmF2, derived from measured ionograms and the FORMOSAT-3 radio occultation measurements collected over Jicamarca during the low-solar-activity period from May 2006 to April 2008. The results show that the B0 values are generally in good agreement with those derived from the true electron density profiles. In addition, correlation analysis revealed seasonal and diurnal variation in B0, which is more pronounced during an equinox and daytime (0800-2000), respectively. A comprehensive discussion on the difference between the values of B0, NmF2, and hmF2 derived from two sources is provided in this paper.

Keywords: B0, COSMIC, Ionospheric dynamics