Ionospheric Observations of FORMOSAT-3 and follow-on FORMOSAT-7

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Abstract

The FORMOSAT-3/COSMIC (F3/C) constellation lunched on 15 April 2007, which consists of six micro-satellites in the low-earth orbit, is capable of monitoring the ionosphere by using the powerful technique of radio occultation. With more than 1500 observations per day, it provides an excellent opportunity to monitor three-dimensional structures and dynamics in the electron density and scintillation of the ionosphere. Many prominent features of equatorial ionization anomaly, plasma cave, middle latitude trough, the Weddell Sea anomaly, sudden stratospheric warming, irregularity, etc. in the ionosphere are observed. Finally, simulation results of ionospheric observations by the F3/C follow-on, FORMOSAT-7, are presented.