Behavior of the low-latitude ionospheric plasma observed by FORMOSAT-7/COSMIC-2

*FU-YUAN CHANG^{1,2}, JANN-YENQ Liu^{1,2,3}, CHI-YEN LIN^{1,2}, Charles Lin⁴

1. Center for Astronautical Physics and Engineering, National Central University, Taoyuan City, Taiwan, 2. Institute of Space Science, National Central University, Taoyuan City, Taiwan, 3. Center for Space and Remote Sensing Research, National Central University, Taoyuan City, Taiwan, 4. Department of Earth Sciences, National Cheng Kung University, Tainan City, Taiwan

FORMOSAT-7/COSMIC-2 (FS-7/C-2), with the mission orbit of 550 km altitude, 24-deg inclination, and a period of 97 minutes, was launched on June 25, 2019. Tri-GNSS Radio occultation (RO) Receiver System (TGRS), Ion Velocity Meter (IVM), and RF Beacon (RFB) onboard FS-7/C-2 six small satellites allow scientists to observe the plasma structure and dynamics in the mid-latitude, low-latitude, and equatorial ionosphere. Measurements of FS-7/C-2 RO and IVM, as well as those of global ground-based GNSS receivers and other satellites, such as FORMOSAT-5/AIP, DMSP, etc. are used to study and have a better understanding of wavenumber-4 (Wave-4) and plasma depletion bays (PDBs).

Keywords: FORMOSAT-7/COSMIC-2, wave-4, plasma depletion bay, plasma drift