

## **A Study of IRI-2007 Spread-F and FORMOSAT-3/COSMIC S<sub>4</sub> Index**

*S. P. Chen<sup>1</sup>, J. Y. Liu<sup>1,2</sup>, and G.Uma<sup>1</sup>*

*<sup>1</sup>Institute of Space Science, and <sup>2</sup>Center for Space and Remote Sensing Research,  
National Central University, Jhongli City 32001, Taiwan*

The latest version of an empirical model of international reference ionosphere, IRI-2007, can be used to derive the probability of occurrences of the ionospheric spread-F. It has been suggested that the scintillation phenomena is highly correlated with the spread-F. The FORMOSAT-3/COSMIC (F3/C) constellation launched on 15 April 2006, which consists of six micro-satellites in the low-Earth orbit, is capable of monitoring the troposphere and ionosphere by using the powerful technique of radio occultation. With more than 6000 observations per day, it provides an excellent opportunity to monitor three-dimensional structures of the S<sub>4</sub> index. In this paper, we present simultaneous IRI2007 spread-F and F3/C S<sub>4</sub>. Possible causes of agreements and discrepancies between the two are proposed and discussed.