

**The low-latitude ionospheric plasma caves underneath  
the equatorial ionization anomaly discovered by FORMOSAT-3/COSMIC**

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This paper reports the structure of Equatorial ionization anomaly (EIA) in various longitudes, and seasons by means of GPS Occultation Experiment (GOX) observations on board the FORMOSAT-3/COSMIC satellite during 2007-2008. The images reveal that the EIA crest moves toward to a high altitude and the magnetic equator in summer hemisphere than in winter hemisphere. The GOX observations also show two remarkable electron density reductions located underneath the EIA regions so called ionospheric plasma caves. The plasma caves could last until late-evening hours, depending on the evolution of the EIA, and range from 150 up to 300 km altitude with 15° latitude width from the center of the EIA crest. The international reference ionosphere IRI-2007 further confirms existence of the ionospheric plasma caves.