

AEM011-P03

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## Three-Dimensional Atmospheric Structure Observed by FORMOSAT-3/ COSMIC

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The Formosa Satellite 3, also named as the Constellation Observing System for Meteorology, Ionosphere, and Climate (abbreviated as FORMOSAT-3/COSMIC, F3/C), is a constellation of six micro-satellites, designed to monitor weather and space weather. The constellation was launched into an initial circular low-Earth orbit at an altitude of 512 km on 15 April 2006. Currently, the six micro-satellites have deployed to six mission orbits at around 800 km altitude with 30-degree separation in longitude for evenly distributed global coverage. The major payload onboard F3/C, GPS occultation experiment (GOX) instrument daily provides more than 2000 soundings of atmospheric vertical temperature, pressure and moisture profile. With the global coverage occultation observations, the atmospheric structure over many continents and most of oceans, where ground-based observation is limited, are now constructed continuously and uniformly. Taking advantage of the uniqueness of the dense global coverage vertical profiles, three-dimensional atmospheric structures can be constructed routinely.

Keywords: satellite, radio occultation