

RADIO OCCULTATION IN IONOSPHERIC SCIENCE AND SPACE WEATHER

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FORMOSAT-3 / COSMIC is a constellation of six Low-Earth-Orbit (LEO) micro-satellites that applies the GPS Radio Occultation technique to monitor the atmosphere, including the ionosphere. Data from F-3 / COSMIC have been used to study space weather, climate and meteorology as well as in operational weather forecasting applications. The global measurements by the Constellation with unprecedented spatial and temporal coverage make it possible to investigate a variety of uniquely interesting phenomena. In this talk several examples regarding ionospheric responses to various coupling processes in the solar-terrestrial system will be presented. We will show how the unique features of global coverage with good height resolution of the F-3 / COSMIC data are used to delineate the various underlying physical mechanisms for the observed phenomena.