



Improving Tropical Cyclogenesis and Heavy Rainfall Prediction with Radio Occultation Data: The COSMIC-2 Mission

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The atmospheric limb sounding technique, which makes use of radio signals transmitted by Global Navigation Satellite Systems (GNSS), has evolved as a robust global observation system. This technique, known as radio occultation (RO), can provide valuable observations of ionospheric electron density and total electron content, neutral atmospheric temperature and moisture to support space weather specification, and forecasting, weather prediction, and climate monitoring.

The joint Taiwan-U.S. COSMIC-2 mission was launched in June 2019 and has been providing approximately 6,000 profiles per day from 40 N to 40 S since inception. Equipped with an advanced GNSS receiver and unique antenna design, COSMIC-2 has produced high signal-to-noise ratio RO measurements that penetrate deeper into the tropical lower troposphere than any previous RO missions. The ability of COSMIC-2 to capture water vapor in the lower tropical troposphere has been shown to be critical for the prediction of tropical cyclogenesis and heavy rainfall events associated with mesoscale convective systems along with the Mei-Yu front.

Thursday, 25 August 2022, 2:00pm

Refreshments 1:45pm

NCAR-Foothills Laboratory, 3450 Mitchell Lane
FL2/1022, Large Auditorium

Seminar will also be live webcast

<https://operations.ucar.edu/live-mmm>

Participants may ask questions during the seminar via Slido.