

Opportunity Title: Modeling path delay in the neutral atmosphere

Opportunity Reference Code: 0203-NPP-NOV23-GSFC-EarthSci

Organization National Aeronautics and Space Administration (NASA)

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Application Deadline 11/1/2023 6:00:59 PM Eastern Time Zone

Description The accuracy of space geodesy is limited by mis-modeling path delay in the neutral atmosphere. The focus of the research is to improve path delay models for analysis of Space Geodesy data including data from Very Long Baseline Interferometry (VLBI), Global Navigation Satellite Systems (GNSS), and Doppler Orbitography Radiopositioning Integrated by Satellite (DORIS) by, (1) investigating the use of global numerical weather models, regional weather models, results of InSAR data analysis, water vapor radiometers for determination of errors in path delay modeling; (2) understanding the origin of these errors; and (3) working to develop methodologies for mitigation of these wet-delay errors. In addition to deterministic modeling the path delay in the neutral atmosphere, this research also explores the applicability of the use of big datasets for evaluation of stochastic properties of the atmosphere for given geodetic stations over a defined time interval by utilizing advances of turbulence theory.

Location:

Goddard Space Flight Center
Greenbelt, Maryland

Field of Science:Earth Science

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- Eligibility** • **Citizenship:** LPR or U.S. Citizen
Requirements • **Degree:** Doctoral Degree.



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