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Poster
The rapid proliferation of objects in Low Earth Orbit (LEO) has created an urgent need for improved orbit prediction and uncertainty quantification. The CONTIGO (Collaboration for Observational and Numerical Thermosphere with Integrated Geospace Orbits) project addresses this by building a flexible, open-source framework for thermospheric density determination and orbit propagation that bridges the gap between space weather research and operations. During the first year of the CONTIGO project, we have developed critical foundations for (1) orbit-based density determination, (2) a prototype data assimilation framework, and (3) assessment of neutral density impacts on orbit determination/prediction using the General Mission Analysis Tool (GMAT). This work represents advancement toward providing open source, collaborative tools linking Heliophysics research to its orbital drag-related impacts. Here we show initial results from our first year and outline goals and areas of potential collaboration for the ongoing project.
Poster session day
Wednesday, April 29, 2026
Poster location
23
Meeting homepage
2026 Space Weather Workshop
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