Jenny
Rodríguez-Gómez
The Catholic University of America and NASA Goddard Space Flight Center
Poster
Solar variability and solar spectral irradiance (SSI) are important for studying planetary atmospheres, particularly the ionosphere–thermosphere–mesosphere (ITM) system, and planetary exospheres. SSI in EUV wavelengths is essential for understanding drivers of space weather effects. The COronal DEnsity and Temperature (CODET) model is a physics-based model (Rodríguez-Gómez 2017; Rodríguez-Gómez et al. 2018). This model uses the relationship between the magnetic field, density, temperature, and EUV emission. This model provides a mean daily SSI time series in EUV wavelengths on long time scales from days to solar cycles at different heliocentric distances. New SSI time series from the CODET model were obtained at different geocentric distances (CODET Re model) to study the Earth's exosphere and at different heliocentric distances, such as Mars distances (CODETMars model). SSI from the CODET Re model was obtained at 3.0Re, 6.6Re, and 8.0Re, in 21.1nm and 19.3 nm wavelengths. Additionally, SSI from the CODETMars model was obtained at Mars' distance ~1.5 AU for 28.4 nm and 21.1 nm (Rodríguez-Gómez 2025b). The CODET model provides SSI time series, fills observational gaps, and delivers reliable long-term datasets to support the study of space weather effects in the atmospheres of Earth and Mars.
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