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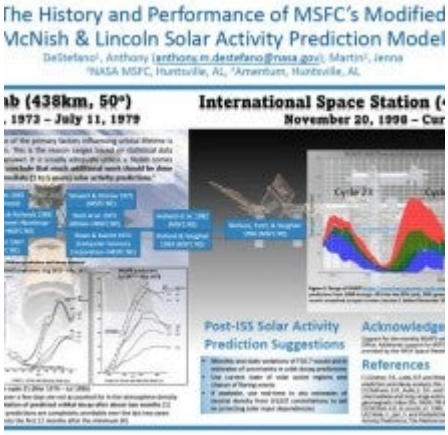
The MSFC Solar Activity Forecast Estimation (MSAFE) model has been in use by NASA programs since the Skylab era. Currently, the Trajectory Operations & Planning Officer (TOPO) uses monthly predictions by MSAFE for ISS orbit maintenance planning. The driving mechanism for developing MSAFE was to provide solar activity inputs (e.g., F10 and Ap index) for thermosphere models such as the Marshall Engineering Thermosphere (MET) model and the Mass Spectrometer Incoherent Scatter Radar (MSIS) model. In this work, we will discuss the history of the development of the MSAFE model, its use during Skylab and the ISS programs, and a review of the performance of the model predictions at various times throughout a given solar cycle.



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