

Title: Model or Measurements? NRLSSI Model and SIM Comparison

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The Earth and its processes are dependent on our sun, which invariably means that any changes in the sun or its proceedings are of great interest. Correctly measuring variability in solar radiation is crucial to understanding its impacts on Earth, particularly in a time when the climate and atmosphere are rapidly changing. Since 2003, the Solar Radiation and Climate Experiment satellite (SORCE) has been collecting data on solar variability; the Spectral Irradiance Monitor (SIM) in particular measures the solar spectral irradiance (SSI) in the visible, near infrared, and slightly into the UV. The Naval Research Laboratory (NRL) has produced a model anticipating SIM's results; however, the results of SIM and NRL do not completely concur. The SIM instrument experiences degradation throughout its lifetime; therefore, the SIM data must be corrected. Once the parameters of degradation are applied to the uncorrected data and then compared to the Naval Research Laboratory Solar Spectral Irradiance (NRLSSI) model, we can bound the parameters of degradation. If the parameters and their bounds have palpable trends, then the accuracy of the SIM data and the NRLSSI model can be further affirmed.