

### **Creation of the V2 Composite Solar Spectral Irradiance Data Set**

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The first long-term composite solar spectral irradiance (SSI) data set was released in 2008 by DeLand and Cebula [2008]. They used data from six separate satellite instruments to create daily spectra covering 170-400 nm for the period November 1978 – July 2005. We are now creating a Version 2 (V2) SSI product that extends the coverage of this data set through 2017 as part of the NASA Solar Irradiance Science Team (SIST) program. Artifacts in the V1 data set identified by users, such as outlier samples and steps at spectral or temporal transitions between individual instrument data sets, are being corrected. A long-term calibration has been developed for NOAA-16 SBUV/2 data by using UARS SUSIM reference measurements as a transfer standard. This method provides new SSI data for the period 2005-2007. We use irradiance data from the Aura OMI instrument to cover the period 2007-2017. These data extend our SSI wavelength coverage into the visible region (265-500 nm), and provide unprecedented long-term accuracy (~0.1%) for SSI measurements. The status of our V2 composite SSI data set will be presented.