Spectral Irradiance Changes in Cycle 24: Inter-comparing Aura/OMI, SORCE/SIM and SORCE/SOLSTICE

Sergey Marchenko *[sergey_marchenko@ssaihq.com]and M. DeLand, Science Systems and Applications, Inc., Lanham, MD, USA and NASA Goddard Space Flight Center, Greenbelt, MD, USA*

Exploiting the excellent stability of the Ozone Monitoring Instrument (OMI, onboard the Aura satellite, launched in 2004), we follow both short-term (solar rotation) and long-term (solar cycle) changes of the spectral solar irradiance (SSI) between 265-500 nm during the current Cycle 24. We find that the magnitudes and spectral dependencies of short- and long-term SSI changes are generally consistent. Comparison of this data set with previous observations shows good repeatability of the SSI variability patterns over Solar Cycles 21-24. The SSI changes detected by OMI closely agree with predictions from the NRLSSI2 model, as well as with concurrent results from the GOME-2 instrument (onboard the METOP-A satellite). We compare the OMI data with Cycle 24 variations determined from SORCE SIM and SOLSTICE measurements.