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Ozone Monitoring Instrument in-flight Calibration Results

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The Ozone Monitoring Instrument (OMI) was launched on board of the EOS AURA satellite on 15 July 2004. OMI is a hyperspectral sensor that measures in the wavelength range 270-500 nm with a spatial resolution of 13x24 km2 for wavelengths above 305 nm and 13x48 km2 below 305 nm. The 115 degrees instantaneous field of view covers about 2600 km at the equator, which enables daily global coverage of the Earth. OMI is capable of measuring the total ozone and nitrogen dioxide columns, ozone vertical profiles, cloud properties, aerosol indices and a number of trace gases that are important to ozone chemistry. Furthermore, OMI is continuing the total column ozone record of the Total Ozone Mapping Spectrometer (TOMS), operated by NASA over the past 25 years. In order to obtain the required quality of the level-1 (calibrated radiances and irradiances) and level-2 data products it is important to calibrate the instrument accurately both pre-launch and in orbit. This contribution presents a number of OMI in-flight calibration results. The radiometric calibration of both the radiance and irradiance modes, spectral calibration, spectral slit function calibration, viewing properties calibration and spectral stray light calibration are discussed. In addition a number of detector and electronics calibration parameters are presented.