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CERES FLASHFLUX: Near real-time observation of Earth and Surface radiation

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The FLASHFlux project was created to develop an operational system that uses the same CERES core science algorithm to obtain global near real-time radiative fluxes for the Top-of-Atmosphere and Surface. Unlike CERES, however, FLASHFlux does not wait for precisely calibrated spectral correction coefficient (SCC) to be deduced from the CERES measurements, but instead uses the best estimate of the SCC values from data available at the time of measurement. By not waiting for the latest SCC results, the FLASHFlux processing can be run sooner to provide the user with near real-time data.

The FLASHFlux project produces Level 2 footprint product within 4 days and Level 3 gridded product within 6 days of satellite measurement. While the FLASHFlux products are not climate-quality datasets provided by systems such as CERES, it is satisfying the critical needs for experimental and operational field programs, ocean and land assimilation efforts, energy and agricultural applications, near real-time climate analysis studies, and education and public outreach programs.

For the present work, we have used FLASHFlux data to analyze the Earth radiation budget at the top-of-atmosphere and to validate the surface flux results against ground truth measurements.