



Towards GERB Edition 2 TOA fluxes

Alessandro Ipe, Edward Baudrez, Nicolas Clerbaux, Johan Moreels, Manon Urbain, and Almudena Velazquez Blazquez

Royal Meteorological Institute, Department of Observations, Brussels, Belgium

The Geostationary Earth Radiation Budget (GERB) dataset currently covers more than 10 years from 2004 and makes it a unique record for the climate and the numerical weather prediction scientific communities through assimilation in various models and climate studies. Indeed, the geostationary platform of this broadband radiometer flying together with the Spinning Enhanced Visible and InfraRed Imager (SEVIRI) on board of the Meteosat Second Generation (MSG) satellites allows to estimate TOA solar and thermal fluxes every 15 minutes at spatial resolutions up to 10 km (nadir).

In this contribution, we will discuss the improvements that were developed for the Edition 1 post-processing. These include terminator and sunglint modeling through scene identification extrapolation. Moreover, with the experience acquired by generating the Edition 1 dataset as well as through its critical assessment, an improved Edition 2 of the processing is being implemented. This second version aims to fulfill climate data record standards. Such a goal will be achieved by improving the scene identification for the selection of solar angular dependency models (ADMs), the solar and thermal narrow-to-broadband conversion schemes, as well as including new thermal ADMs for radiance-to-flux conversion and GERB instrument ageing correction schemes.