Intercomparison of O3M SAF OUV and OMI/Aura OMUVBL3 Surface UV Products

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The offline surface UV product (OUV) of the Satellite Application Facility on Ozone and Atmospheric Chemistry Monitoring (O3M SAF) is produced operationally during 15-year EUMETSAT Polar System programme using the measurements of the three Metop satellites. UV product is based on the O3M SAF near real time total column ozone product derived from Metop/GOME-2 measurements. OUV is a global gridded (level-3) product. The diurnal cloud cycle needed in calculating the daily UV doses is sampled using Metop/AVHRR level 1b products in the morning side and NOAA/AVHRR level 1b products in the afternoon side. Included in the product are daily doses and maximum dose rates of integrated UV-B and UV-A radiation together with values obtained by different biological weighting functions.

Aura OMI Level-3 Global Gridded Surface UVB Irradiance product (OMUVBL3) is processed at Finnish Meteorological Institute. The input data for UV products is level-2 OMI total ozone product (OMTO3) derived from measurements from Ozone Monitoring Instrument (OMI) nadir viewing spectrometer. OMI is a contribution of the Netherland's Agency for Aerospace Programs (NIVR) in collaboration with FMI to the EOS Aura mission. OMUVBL3 is global surface UV product including local solar noon irradiances at 305, 310, 324 and 380 nm, as well as erythemally weighted irradiance. In addition, erythemally weighted daily surface UV dose is included.

In this presentation, we present the intercomparison results for these two products for the period of two years from June 2007 to June 2009. Erythemally weighted daily doses and daily maximum dose rates are compared. In addtion, differences in the products and contributions of different error sources to the product errors are discussed.