



ILMATIETEEN LAITOS

# OMI Level 2G Surface UV Irradiance (OMUVBG) PGE

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## Readme file

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## 1 Introduction

The OMUVBG PGE creates an Ozone Monitoring Instrument (OMI) daily Level 2G (L2G) gridded data product file from up to 16 OMI orbital OMUVB Level 2 (L2) swath data product files. Each OMI L2G product file contains 24 UTC hours of OMI L2 data from OMI L2 product files resampled into a longitude-latitude grid.

The format of the OMI L2G product files is consistent with the document entitled "HDF-EOS Aura File Format Guidelines" by C. Craig et al.

### 1.1 OMI row anomaly

A row anomaly is an anomaly which affects the quality of the level 1B radiance data at all wavelengths for a particular viewing direction of OMI. This corresponds to a row on the CCD detectors, and hence the term Row Anomaly. The OMI row anomaly is dynamic, it changes over time. The row anomaly affects the quality of the Level 1B radiance data and consequently the Level 2 data products.

IMPORTANT NOTE: Row anomaly has not been corrected or screened in OMUVB Level 2G product. However, observations affected by the row anomaly have been flagged. Users should note that any observations for which `XTrackQualityFlags`  $\neq$  0 are not recommended for use.

## 2 OMUVBG algorithm

The OMUVBG PGE populates each cell in the L2G grid with data for all L2 "scenes" that

- have observation times that lie within the UTC day in question,
- have centers that lie within the L2G grid cell in question, and
- are "good"

A "good" scene is one that has

- A solar zenith angle that is less than or equal to 88.0 degrees, and
- CS erythemal daily dose is not equal to missing value.

The OMI L2 data that are reproduced in the OMI L2G product are not averaged or weighted in any way by the OMUVBG PGE.

## 3 Adopted L2G grid

The adopted L2G grid is a 0.25-degree by 0.25-degree grid in longitude and latitude. The dimensions of this grid are 1440 by 720. The origin of the grid is at lower left. That is, the grid cell at coordinates (1, 1) is centered at (longitude = -179.875 , latitude = -89.875), and the grid cell at coordinates (1440, 720) is centered at (longitude = 179.875 , latitude = 89.875).

The number of L2 scenes that are mapped onto a given L2G grid cell can range from 0 to 15. These data are stored in an additional dimension of the grid. Each "good" L2 scene is mapped onto only one L2G grid cell.

The adopted L2G grid is consistent with the document entitled "Definition of OMI Grids for Level 3 and Level 4 Data Products" by J.P. Veeffkind et al.