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!

! **README for OMNO2G (OMI Daily L2G for Version 1.1.13.0 of OMNO2)**

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! **OML2G High Level Overview:**

! This is the main program for the OML2G Product Generation Executive (PGE).

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! The OML2G PGE creates an Ozone Monitoring Instrument (OMI) daily Level 2G

! (L2G) gridded data product file from (as many as) 16 OMI orbital Level 2

! (L2) swath data product files.

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! Each OMI L2G product file contains 24 UTC hours of OMI L2 data from a single

! OMI L2 product subsetted onto a longitude-latitude grid.

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! An OMI L2G day is defined to be the 24 hours that lie between UTC times of

! 0 hours, 0 minutes, 0 seconds and 23 hours, 59 minutes, 59.999999 seconds.

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! The OMI L2G product currently excludes L2 data collected in spatial and

! spectral zoom modes.

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! 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.

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! **OML2G Algorithm:**

! The OML2G PGE populates each cell in the L2G grid with data for all L2

! scenes that

! 1) have observation times that lie within the L2G day in question,

! 2) have centers that lie within the L2G grid cell in question, and

! 3) are "good".

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! The OML2G PGE makes use of different definitions of "good" to populate

! the L2G grids that correspond to different L2 products.

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! In the case of the OMI L2G product named OMNO2G, which is L2G for the L2

! product named OMNO2, the definition of a "good" scene is one that has

! i) a solar zenith angle that is less than or equal to 88.0 degrees, and

! ii) a column amount NO2 that is not equal to the missing value.

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! The OMI L2 data that are reproduced in the OMI L2G product are not averaged

! or weighted in any way by the OML2G PGE.

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! **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).

!

! Each "good" L2 scene is mapped onto only one L2G grid cell.

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! The number of L2 scenes that are mapped onto a given L2G grid cell can range

! from 0 to 12. These data are stored in an additional dimension of the grid.

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! 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. Veefkind et al.

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