ALGOM WP4: Level 1c IODD

Didier Fussen

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1 Data access

The data set can be downloaded from the FTP site: *ftp://algom@ftp-ae.oma.be* . A password is required: *gomosAlgom*

The data format is Matlab binary files. For users not having MatLab, it is possible to convert them with scientific Python (scipy) or the "matio" library on Sourceforge.

Alternatively, it might be easier to make use of Octave (a free GNU MatLab clone), to analyze and/or to convert the data.

2 Description of the climatology: directories and formats

The climatology has been built according to the description in the ATBD document and the associated technical note. Input data used were the transmissions corrected for scintillation and dilution effects and the covariance function of the transmission (see: https://earth.esa.int/web/sppa/mission-performance/esa-missions/envisat/gomos and GOM_EXT files).

The GOMOS virtual climatology consists of 18 averaged spectra per month, corresponding to the 18 latitude bands.

The GOMOS virtual transmittance climatologies (Full dark and not full dark) are stored in directories like:

/FD/yyyy/mm/

/NFD/yyyy/mm/

where yyyy stands for the year (from 2002 to 2005) and mm for the month.

In each of this directory, one can find at least 18 matlab files corresponding to the 18 latitude bands.

These files are named, for example, bin_042002_00_10N_FD.mat for the bin [0 deg. - 10 deg. N] in april 2002 in full dark condition.

Each of these files consists in:

- Tbin: a matrix containing the transmittance values for each tangent altitude and wavelength (size= 101*2336),

- dTbin: a matrix containing the associated uncertainties (size = 101*2336),

- FPbin: a matrix containing the averaged transmittance values calculated using photometers signals (size = 101*2),

- dFPbin: a matrix containing the associated uncertainties (size = 101* 2);

- zin: a vector with 101 elements corresponding to the altitude levels (in km)

- wvl: a vector with 2336 elements corresponding to the wavelength grid (in nm)

- L: a vector containing the list of the single occultation list to build the averaged measurement (for a description of each of these occultation, see the file GomosList.mat hereafter)

- StarOcc: contains some details and statistics about the stars used (for each star used: magnitude, effective temperature, number and percentage of occultations using this star in this bin)

The size of each file is about 3 Mbytes for a total size of 6.4 Gbytes. In the case of bimodal distribution, the files are almost identical except that there are two matrix for the transmittance (Tbin1 and Tbin2), for the uncertainties and for the list of occultations used in each mode.