

F90 routine to convert DOMINO HDF-EOS5 to HDF4

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The F90 programs stored in DOMINO_he5_hdf4_converter.tar convert DOMINO HDF-EOS5 files into HDF4. The DOMINO data is currently being provided in both HDF-EOS5 as well as HDF4 formats, but the HDF4 format will be phased out on 01-01-2009. With this conversion tool, users can convert the HDF-EOS5 files into HDF4 so that their read in programs may remain unchanged. The decision to transfer file formats to HDF-EOS5 is mainly driven by OMI data format requirements. But we will keep supporting the HDF4 data format for consistency with the GOME, SCIAMACHY, and GOME-2 data products available through www.temis.nl.

First download DOMINO_he5_hdf4_converter.tar, and untar by typing `tar -xvf DOMINO_he5_hdf4_converter.tar`. Then to compile and run the fortran90 code successfully, users will need the HDF-EOS5 libraries. These can be obtained from <http://hdfeos.org/>, then click SOFTWARE. This takes you to the ECS SDP Toolkit Home Page at NASA. Then click (under What's New) [SCF Toolkit 5.2.15 & associated software have been released](#) (March 12, 2008) for further instructions on how to obtain the HDF-EOS5 libraries. Once the libraries have been installed, the code can be compiled on a linux workstation by typing:

```
>make
```

This will produce an executable called main.exe. The executable can be run by typing:

```
>main.exe
```

It will look for a file called OMIFilelist. This list contains the location and names of the HDF-EOS5 files to be converted into the HDF4-format. It is recommended to create an orderly list, i.e. typically the result of typing `ls` in the directory where the HDF-EOS5 data is stored. Below is a typical example of the contents of the file OMIFilelist for converting all 15 orbits measured on 12 November 2004 into the HDF4 format. Note that OMIFilelist does not need to contain only one day worth of data, more days are also possible.

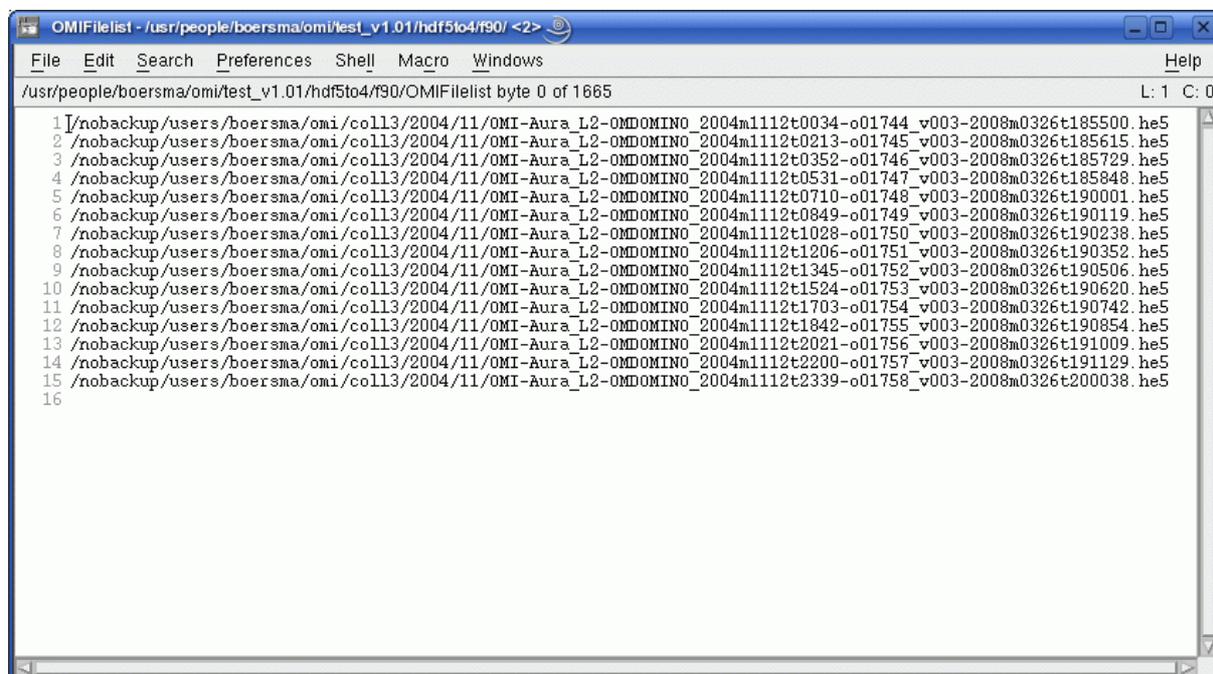


Figure 1. Typical contents of OMIFilelist.

The runtime for our example day, with 15 orbits, was 1 minute, 25 seconds. So converting a complete year of HDF-EOS5 data is expected to take ~9 hours of runtime.

Appendix

This example gives some hints on how the HDF-EOS5 libraries have been installed at KNMI for user boersma. This user who happens to work with the C shell, has a `.cshrc` file in his home directory that holds the crucial line

```
source /toolkit/pgs-dev-env.csh
```

In this example, the file `pgs-dev-env.csh` is located in `/usr/people/boersma/toolkit`. In the file itself the toolkit home directory should be set; the line where this happens should read:

```
setenv PGSHOME /usr/people/boersma/toolkit/
```

Also, a number of paths should be set that tell `pgs-dev-env.csh` where the library files are located, for instance

```
setenv HDFEOS_HOME /usr/people/boersma/toolkit/hdfeos # set HDF-EOS home directory
```

To adapt the `pgs-dev-env.csh` file for your particular situation, follow the instructions given in the file itself.

When compiling, the following should be printed to the terminal:

```
ifort -O2 -traceback -g -ftz -I/usr/people/boersma/toolkit/hdf5/linux/hdf5-1.6.5-post5/include  
-I/ usr/people/boersma/toolkit/hdfeos5/include -I/include -c Mconstants.f90
```

etc.