OIFitsExplorer quick documentation

Main features

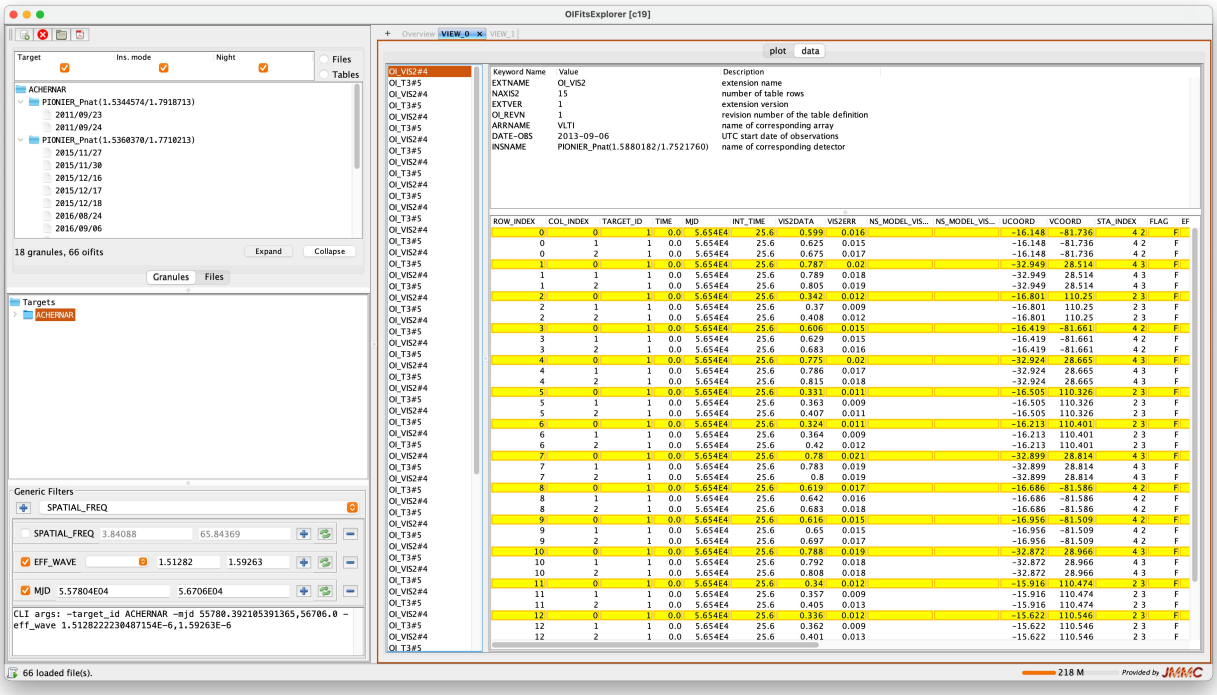
OIFitsExplorer is a tool that allows to **load**, **visualize** and **filter** up to hundreds of **oifits files**.

It does not present these files as a list, but rather presents a list of ***Granules***. A ***granule*** corresponds to a unique association: Target, InstrumentMode, NightId.

The user is meant to select some of these granules to display the associated data tables in plots, or in tables.

The set of loaded oifits files, the plotting window setup and corresponding filtering can be exported as an ***oifits collection*** (extension .oixp). This file will keep the memory of the links to the files on your computer, it will not embed the actual oifits files. The plotting setups and filtering choices will be recorded as well.

Quick panel overview



The main window can be decomposed in 6 panels

1. The granule tree panel
2. The oidata selector
3. The plotting/data window
4. The plotting control panel
5. The keyword filtering panel
6. The Command Line Interface display

The granule tree panel (GTP)

==This panel is not aimed at selecting data !==

It displays the available tables, sorted in the following arborescence:
Target > Instrument mode > Night > File > Table

One characteristic of this tree is that you can flatten some levels (the Night level for example). You can also reorder the first three levels.

The oidata selector

The Data Tree Panel (DTP) has a tree similar to the one in GTP, but you cannot flatten levels and the arborescence is always Target > Instrument mode > Table.
It is an action panel: by clicking on a node or leaf of the tree, it select the currently displayed data in the VP. Selecting a leaf selects one table, and selecting a node selects one or several tables.

The plotting and its associated control panel

Displays the selected data according to the added coordinates.
You can add any number of plots and control the display characteristics.

An expression editor allows you to plot a linear mathematical combination of existing numerical columns and generate the corresponding identifier in the plotting control panel.

The plotting panel accepts tabs allowing different ***views*** on the data. An ***overview*** tab collects all the plots in a single window.

The data filtering panel

This panel allows to an arbitrary number of combined filters on oidata columns to be included (e.g. EFF_WAVE, SPATIAL_FREQ, MJD). Once generated they can be activated or not for comparison purposes and they can be removed. The plots are refresh as the filter are generated.

The EFF_WAVE panel comes with pre-defined lines (to be completed with MATISSE specific lines.)

The user can use the data view of the plotting panel to check which data has been selected (yellow rows, see second figure).

Once a proper filtering has been defined the user can export a single oifits file and the corresponding oifits collection to keep a memory of its work.

The command line information panel

The Command Line Interface display allows the filtering arguments to be passed to the merging command line JMMC tool ***oitools***. This can be handy for any one who would want to carry on a batch filtering process using ***oitools*** or even using its own scripting language (e.g. python).

Please check the github [oitools (https://github.com/JMMC-OpenDev/oitools)](https://github.com/JMMC-OpenDev/oitools) page for more information on that topic.

Recording filtering/merging information.

There is currenly no simple way to record a set of filtering besides the previously defined command line message. However a simple workaround consist in setting you filter on a given data set, removing the oifits files and exporting the corresonding OIFitsExplorer collection. This file can be used as a template and opened again later and filled with a different oifits dataset.

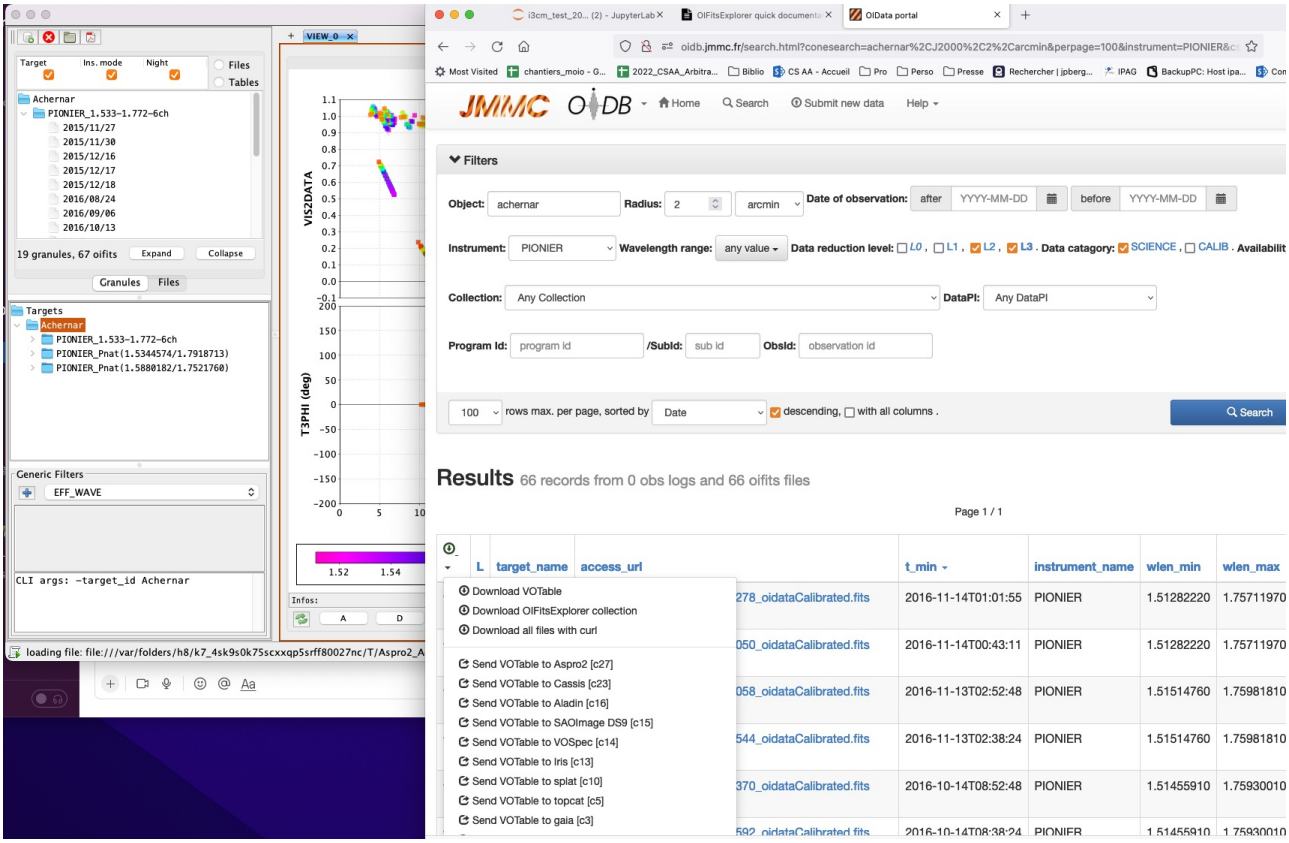
Interoperability

Oifits files/collections can be directly sent from OidB or Aspro2.

From OiDB

Go to JMMC OiDB's website and select the target/instruments data level (L0 to L3). Once the query reply you can select individually files or by clicking on the first column first row icon you can send them to OIfitsExplorer via the SAMP protocol. Your approval will be initially requested.

IMPORTANT: the selected oifits files will be downloaded on your computer in the corresponding OIFitsExplorer folder (On Mac: `DOCUMENTS/OIFITSEXPLORER`)



From Aspro2

Once you have generated a model for a given target, the corresponding oifits file can be sent to OIfitsExplorer using the SAMP protocol. Choose the interop menu -> Send Oifits data OIFitsExplorer.