pyCGNS.NAV/Manual

Release 4.0.1

Marc Poinot

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If you want to browse your CGNS file, just type:

```
CGNS.NAV
```

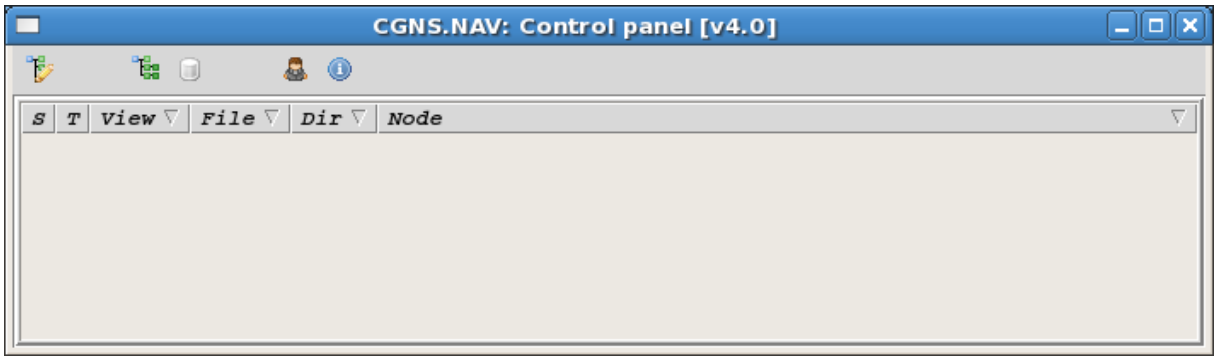
and the pyCGNS browser appears. It can load/save CGNS files with the HDF5/ADF and Python formats, parse and display the contents, edit the contents using simple edit and copy/paste commands, select nodes using complex queries, use already defined patterns such as the *SIDS* patterns...

CHAPTER

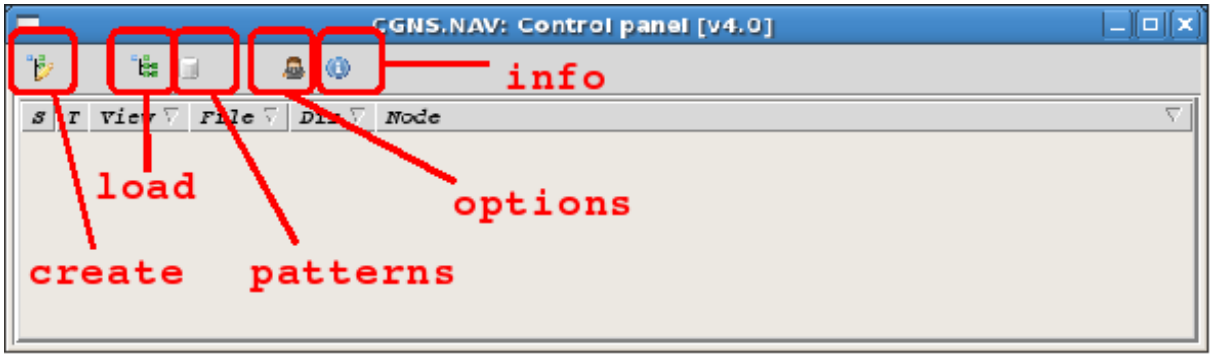
ONE

QUICKSTART

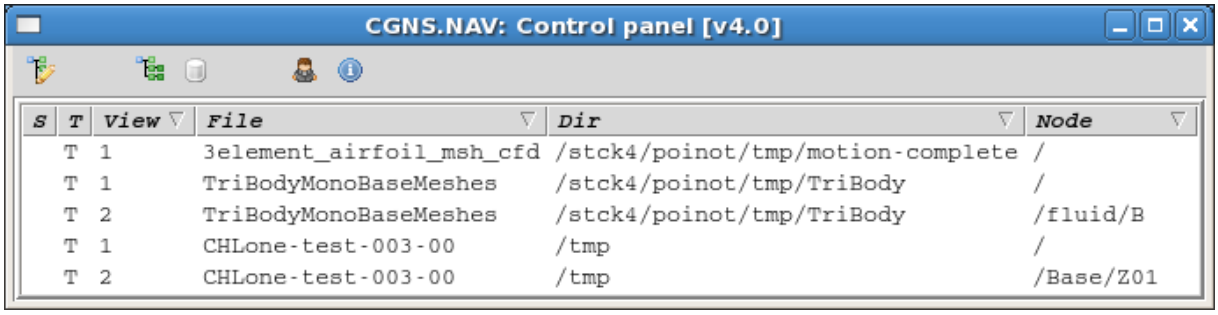
The first window you see when you start `CGNS.NAV` is the *Control View*. This main view helps you to find out the views you have and on which CGNS tree they refer to. If you select the line of an existing view in the *Control view* and press *Return*, this view will be raised on your screen. You can find back the *Control view* from any other view just pressing the *BackSpace* key.



From its icon menu you can *create* a new CGNS/Python tree, you can *Load* an existing file or open the *Pattern View*. There is also an icon for the *Option View* and an info about `CGNS.NAV` version.



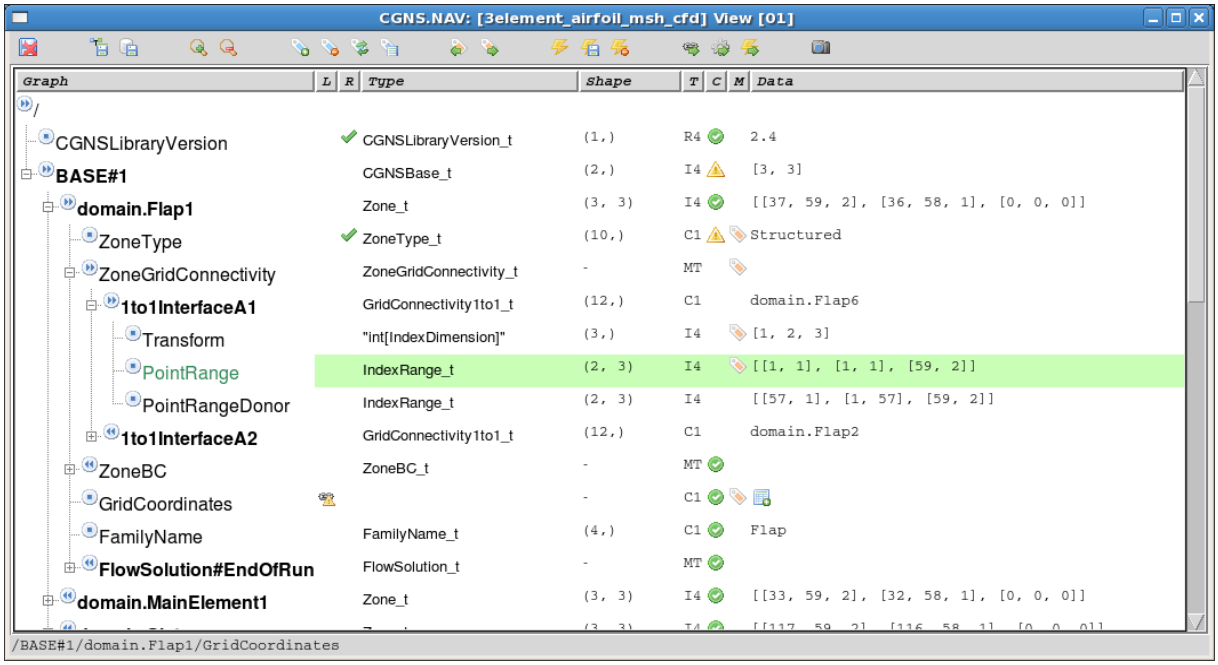
Each time you open a view on a file, the *Control* keeps track of it, you can check all the views you may have on the same file.



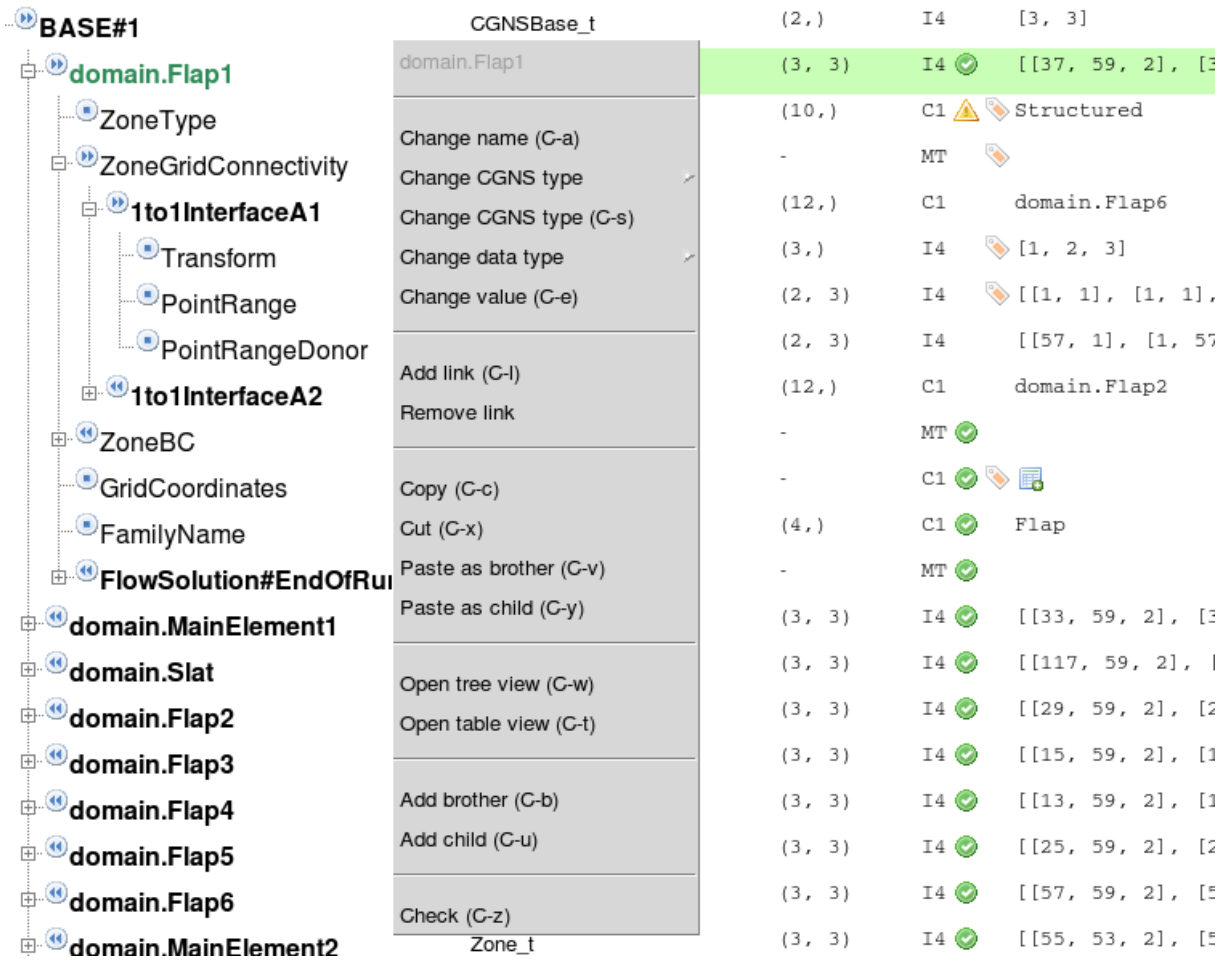
The columns of the lines you see in this *Control* view are:

- *S* status flag, says if you tree has been modified and needs a save
- *T* type of view, in this case you only have *tree* views
- The number of the view if youhave many views for the same CGNS tree
- The file name (when you create from scratch we propose a default name)
- The directory where you loaded/saved the file
- The root node of the view

The *Tree View* appears when you *create* a new tree or when you *open* an existing one. The tree below is a large one and we have a lot of information.



You click on the +/- icon before any node name in the tree to open/close the child sub-tree for this node. A mouse left button simpple click on a node selects the node. A mouse right button simple click opens the menu for the selected node. The menu gives you access to some function such as Copy/Paste, change node name, type, add a child... Most of these functions have keyboard shortcuts.


BASE#1
CGNSBase_t
(2,)
I4
[3, 3]
domain.Flap1
domain.Flap1
(3, 3)
I4
[[37, 59, 2], [3
ZoneType
(10,)
C1
Structured
ZoneGridConnectivity
-
MT
1to1InterfaceA1
(12,)
C1
domain.Flap6
Transform
(3,)
I4
[1, 2, 3]
PointRange
(2, 3)
I4
[[1, 1], [1, 1],
PointRangeDonor
(2, 3)
I4
[[57, 1], [1, 57
1to1InterfaceA2
(12,)
C1
domain.Flap2
ZoneBC
-
MT
GridCoordinates
-
C1
FamilyName
(4,)
C1
Flap
FlowSolution#EndOfRu
-
MT
domain.MainElement1
(3, 3)
I4
[[33, 59, 2], [3
domain.Slat
(3, 3)
I4
[[117, 59, 2],
domain.Flap2
(3, 3)
I4
[[29, 59, 2], [2
domain.Flap3
(3, 3)
I4
[[15, 59, 2], [1
domain.Flap4
(3, 3)
I4
[[13, 59, 2], [1
domain.Flap5
(3, 3)
I4
[[25, 59, 2], [2
domain.Flap6
(3, 3)
I4
[[57, 59, 2], [5
domain.MainElement2
(3, 3)
I4
[[55, 53, 2], [5
Change name (C-a)
Change CGNS type
Change CGNS type (C-s)
Change data type
Change value (C-e)
Add link (C-l)
Remove link
Copy (C-c)
Cut (C-x)
Paste as brother (C-v)
Paste as child (C-y)
Open tree view (C-w)
Open table view (C-t)
Add brother (C-b)
Add child (C-u)
Check (C-z)
Zone_t

CHAPTER

TWO

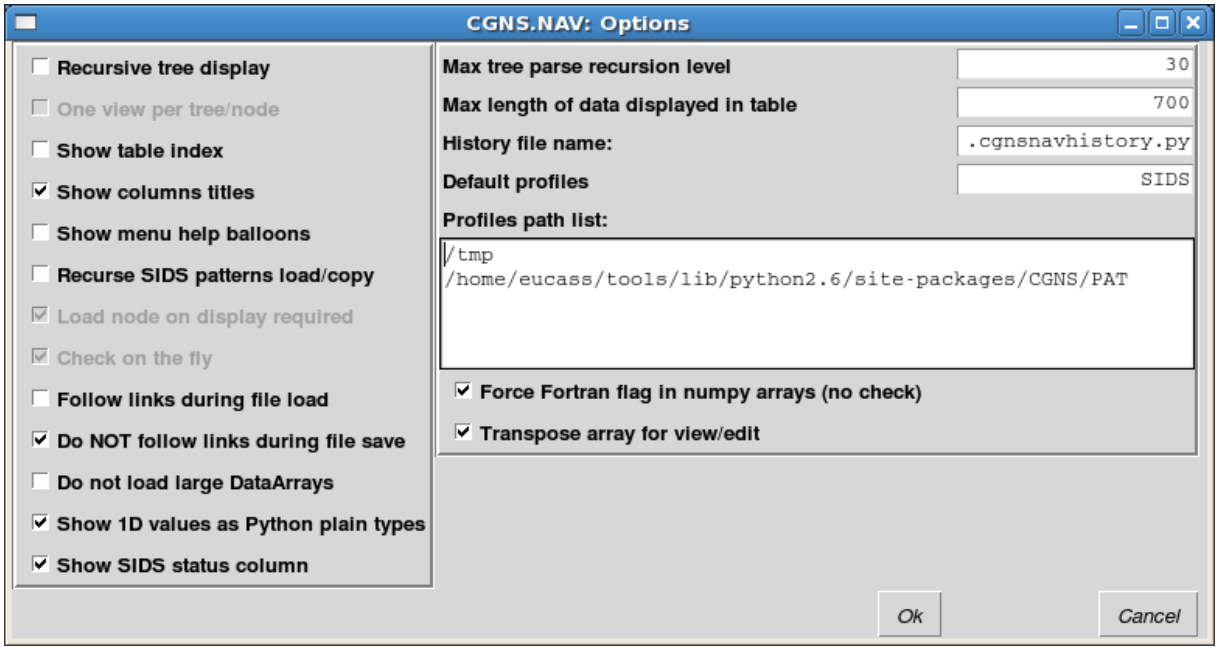
TREE VIEW

CHAPTER

THREE

OPTION VIEW

The *Option view* is the place where you set your own parameters for *CGNS.NAV*. You should be sure the right options are set because some of these are very important and could change the actual contents of a file you want to store.



3.1 Options

The check-box options are active when the box is *checked* (wouahahah !). Some are only related to the display of the data, some other are driving the way *CGNS.NAV* reads or writes the data on disk and have a strong impact on the actual CGNS file you will obtain.

- ***Recursive tree display* forces the *Tree view* to open all the children** recursively. We strongly suggest you *un-check* this box on large files.
- *One view per tree/node* (Not available) when active you cannot open more than one view per tree/node.
- *Show columns titles* is used to show/hide the top titles of tables
- *Show menu help balloons* activates ugly yelllow balloons giving a hint on the purpose of the icons in the views menus.
- *Recurse SIDS patterns load/copy* indicates that you want to load or copy the SIDS CGNS sub-trees in a recursive way. For example, if you load the *CGNSBase_t* pattern you will obtain the whole SIDS pattern, all pattern children of *CGNSBase_t* will be loaded as well.

- *Load node on display required* (Not available) to save memory and time, CGNS node is read from the file only when *CGNS.NAV* needs to display it.
- *Check on the fly* (Not available) forces a check each time you modify a tree.
- *Follow links during file load* indicates that the links *CGNS.NAV* encounters into a CGNS file have to be followed or not.
- *Do NOT follow links during file save* means that the links will be ignored during save which has the effect to *merge* all the tree nodes into the same root file.
- *Do not load large DataArrays*
- *Show 1D values as plain Python types*
- *Show SIDS status column*
- *Max tree parse recursion level*
- *Max length of data displayed in table*
- *History file name*
- *Default profile*
- *Profile path list*
- *Force fortran flag in numpy arrays*
- *Transpose array for edit/view*

CHAPTER

FOUR

PATTERN VIEW

CHAPTER

FIVE

QUERY VIEW

CHAPTER

SIX

LINK VIEW

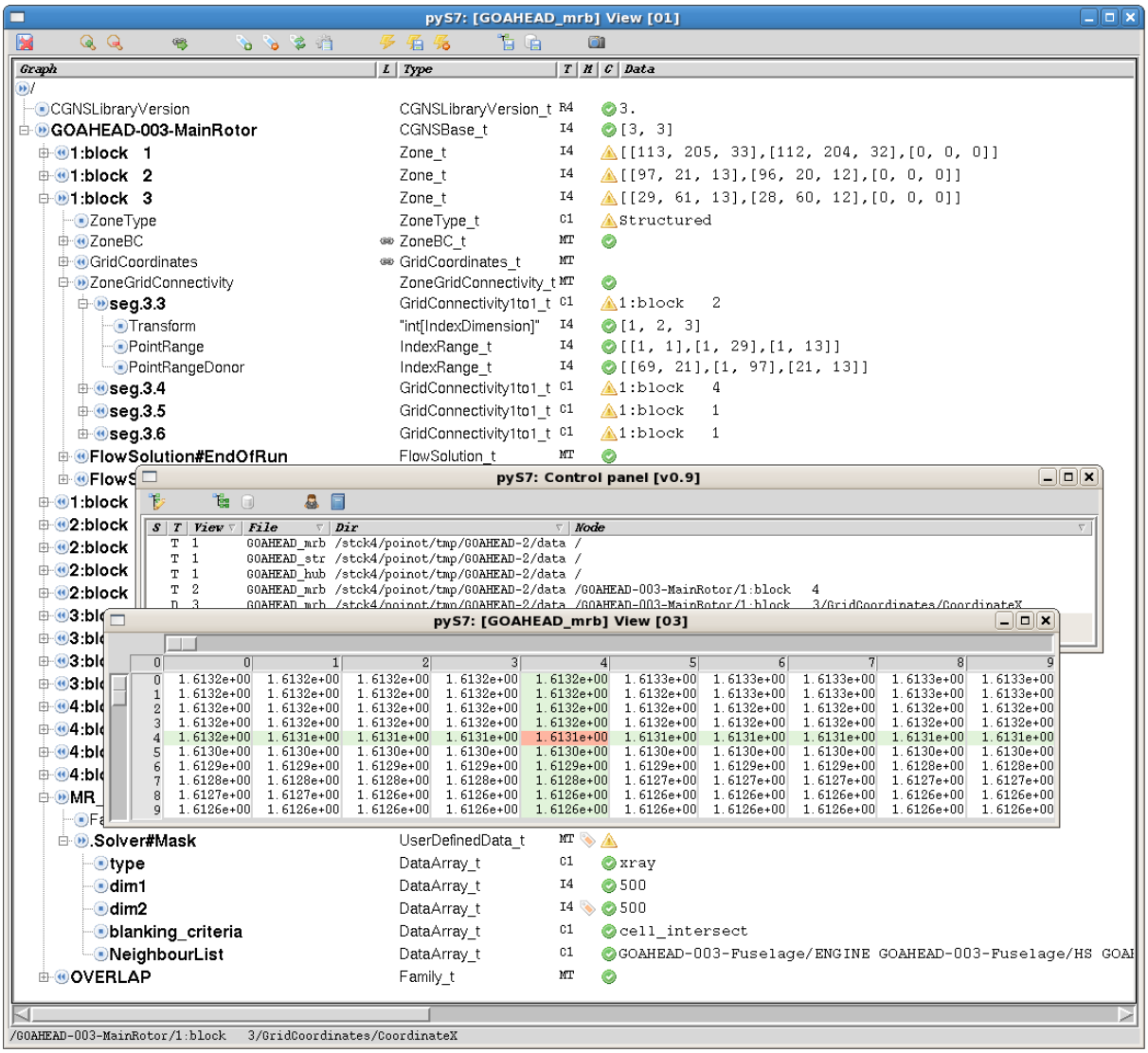
CHAPTER

SEVEN

TABLE VIEW

Warning: There are a *lot* of screenshots in this `CGNS.NAV` doc, some may be a bit out-dated but most of the look-and-feel of the tool would keep unchanged.

The sreenshot below shows a `CGNS.NAV` with various windows.



- *genindex*