

Version 2019

Titre : Validation du module DataAnalytics

Responsable : TARDIEU Nicolas

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Clé : SV1.11.01 Révision

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Validation of the module DataAnalytics

Summary:

Card of validation of the operation of the module DataAnalytics.



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1 Jupyter console

- To launch the module DataAnalytics.
- To check that the Ju consolepyfor the third time QtEmbarked console is visible.
- If it is not the case, to click on File > Console.
- ⇒ The console. Embarked Jupiter Console appears.

```
Jupyter QtConsole 5.0.2
Python 3.7.4 (default, Aug 13 2019, 20:35:49)
Type 'copyright', 'credits' or 'license' for more information
IPython 7.20.0 -- An enhanced Interactive Python.
Type '?' for help.
In [1]:
```

- To press on the Ctrl keys + J.
- ⇒ The console. Embarked Jupiter Console disappears.
 - To press on the Ctrl keys + J.
- ⇒ The console. Embarked Jupiter Console appears.
 - To type "importation DA" in Jupyfor the third time QtConsole and to press "Entered".
 - To type "DA. __name" and to press "Entered".
- ⇒ It appears 'DA' in Jupyter QtConsole.

```
In [1]: import DA

In [2]: DA.__name__
Out[2]: 'DA'

In [3]: |
```

2 To plot curves

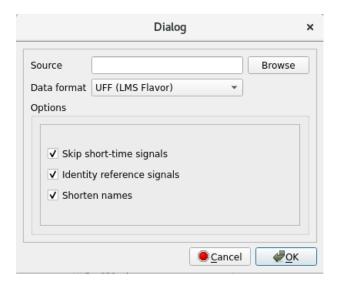
- To click on File > Load Dated.
- ⇒ The window of selection of the data appears.

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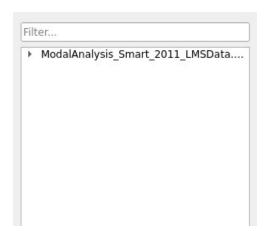
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- To click on "Browse" and to surf until "tests/dated" and to select the ModalAnalysis_Smart_2011_LMSData.unv file. To click on "Open" then "OK".
- ⇒ The data appear in the tree, on the left part of the screen.



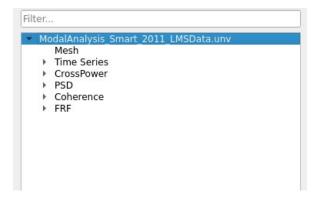
- To click on the small triangle on the left of "ModalAnalysis_Smart_2011_...".
- \Rightarrow The data are spread in the tree.

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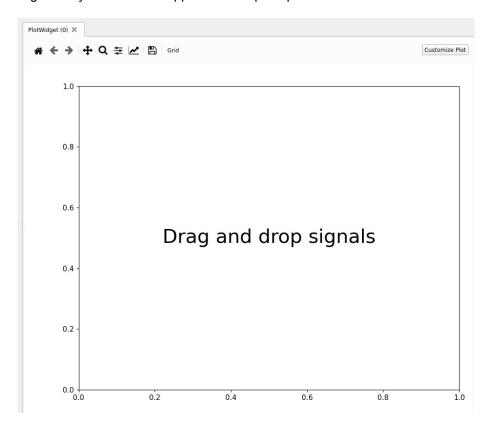
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- · To click on Tools > Stud.
- ⇒ The widget of layout of curves appears in the principal window.



• To select the entry "CrossPower" in the tree of the data and made slip it into the widget of marrow layout, at the place where "Drag and drop signals" is written.

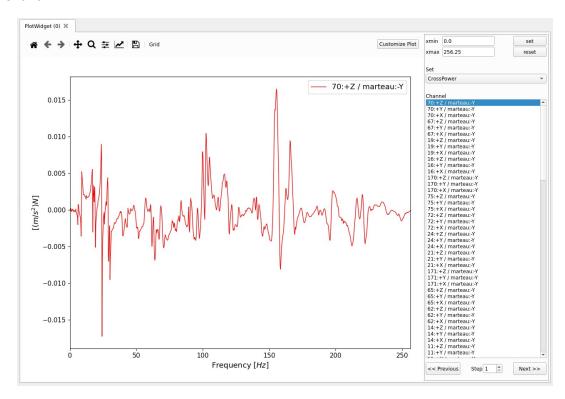
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 \Rightarrow The curves appear in the chart window and the list appears in the drop-down list entitled "Chanel".



- To click with the right button of the mouse in the chart window and to choose in the drop-down list "Time/Freq".
- To click with the right button of the mouse in the chart window and to choose in the dropdown list "Y flax/log"
- ⇒ The layout becomes a diagram Amplitude/Phase where the amplitude is in logarithmic scale.

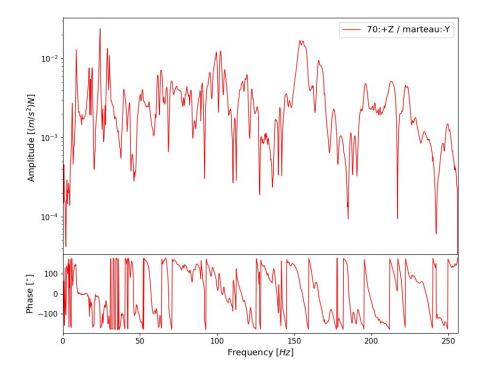
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3 Experimental modal analysis

- To select in small Tools > Modal Analysis > Experimental Modal Analysis Polymax
- ⇒ The Experimental widget Modal Analysis Polymax appears in the principal window.

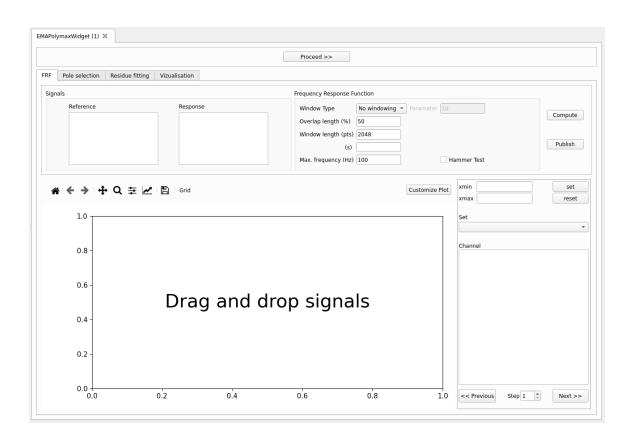
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- · To click on CheckBox "Hammer Test" of the widget.
- To write "mart" in the window of text where "Filter" is written in grayed.
- To select the TimeSeries entry of the tree and to make it slip into the window "Reference".
- To write "^ (?! mart)" in the window of text where "Filter" is written in grayed.
- To select the TimeSeries entry of the tree and to make it slip into the window "Answer".
- To click on the button "Compute"
- ⇒ The response curves in frequency appear in the chart window.

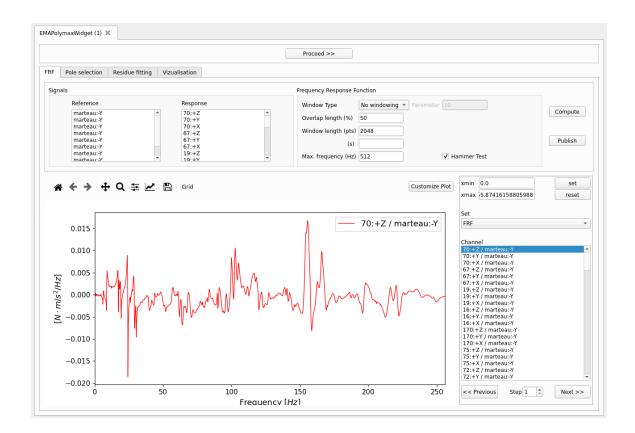
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- · To click on the button "Proceed"
- ⇒ The second mitre entitled "Pole selection" appears.
 - To inform 3 in the box "Fmin".
 - · To inform 12 in the box "Fmax".
 - To select "Acceleration" on the line "Format".
 - · To click on "Compute".
- ⇒ A graph with a mauve curve, red points and black crosses appears.

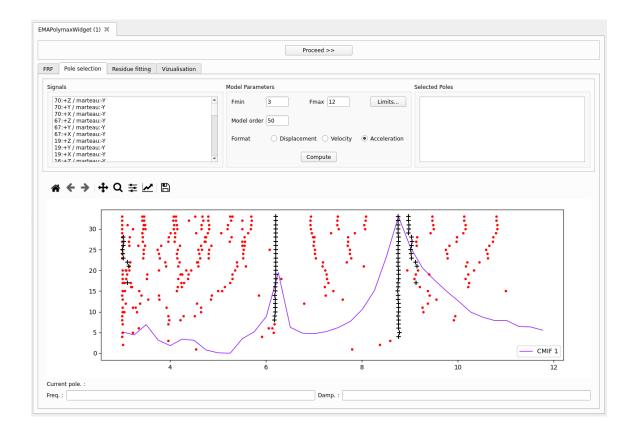
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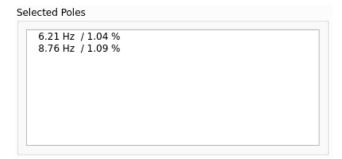
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- The mauve curve presents 2 peaks with 2 lines of black crosses. To place the mouse on one of the crosses of the first peak, to click with the button of right-hand side and to click on "Add Pole".
- To make in the same way on one of the black crosses of the 2nd peak.
- \Rightarrow The frequencies and depreciation of the selected poles appear in the window "Selected Poles".



- To click on "Proceed".
- To click on "Compute".

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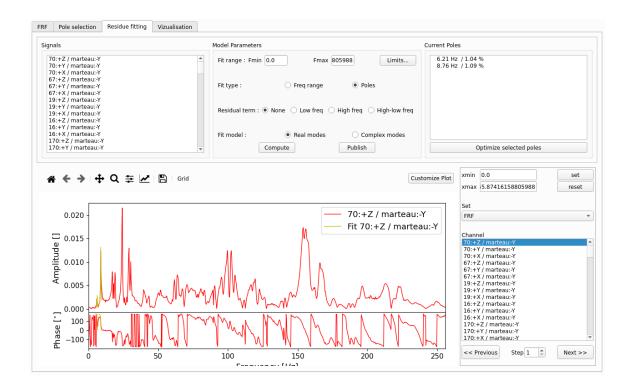
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⇒ The calculated modal answers appear in the chart window.



- · To click on "Proceed".
- In the tree, to select the object "Mesh" and to make it slip on the blue bottom of the new window.
- ⇒ The grid of the studied structure appears in the window of Viewer.

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