Quick manual

Spec INTI Editor V2.x

SpecINTI editor lets you launch specINTI from a graphical interface. It includes a text editor for editing and saving configuration files, an observation file generator, image fits and spectral profile visualization, and a thumbnail presentation of results in png format.

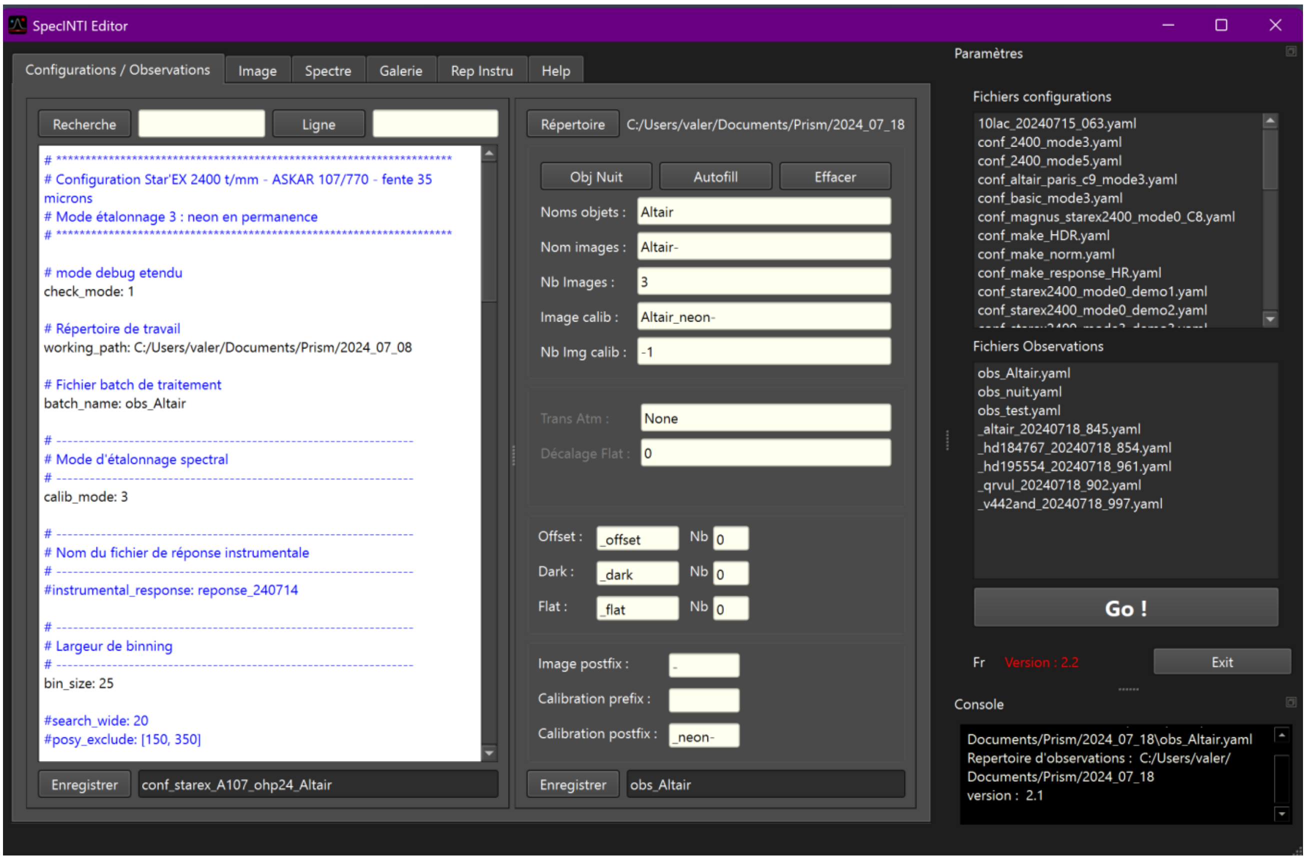
Installation

Unzip the specinti_editor file

Copy your _configuration folder instead of the default _configuration folder

General presentation

On launch, the window below appears. It takes the form of a tabbed area and a panel on the right with two blocks (docks): Parameters and Console.



```
# ******************************************************************
# Configuration Star'EX 2400 t/mm - ASKAR 107/770 - fente 35
microns
# Mode étalonnage 3 : neon en permanence
# ******************************************************************

# mode debug etendu
check_mode: 1

# Répertoire de travail
working_path: C:/Users/valer/Documents/Prism/2024_07_08

# Fichier batch de traitement
batch_name: obs_Altair

# ------------------------------------------------------------
# Mode d'étalonnage spectral
# ------------------------------------------------------------
calib_mode: 3

# ------------------------------------------------------------
# Nom du fichier de réponse instrumentale
# ------------------------------------------------------------
#instrumental_response: reponse_240714

# ------------------------------------------------------------
# Largeur de binning
# ------------------------------------------------------------
bin_size: 25

#search_wide: 20
#posy_exclude: [150, 350]
```

Enregistrer: conf_starex_A107_ohp24_Altair

Répertoire: C:/Users/valer/Documents/Prism/2024_07_18

Noms objets : Altair
Nom images : Altair-
Nb Images : 3
Image calib : Altair_neon-
Nb Img calib : -1

Trans Atm : None
Décalage Flat : 0

Offset : _offset Nb 0
Dark : _dark Nb 0
Flat : _flat Nb 0

Image postfix : -
Calibration prefix :
Calibration postfix : _neon-

Enregistrer: obs_Altair

Fichiers configurations
- 10lac_20240715_063.yaml
- conf_2400_mode3.yaml
- conf_2400_mode5.yaml
- conf_altair_paris_c9_mode3.yaml
- conf_basic_mode3.yaml
- conf_magnus_starex2400_mode0_C8.yaml
- conf_make_HDR.yaml
- conf_make_norm.yaml
- conf_make_response_HR.yaml
- conf_starex2400_mode0_demo1.yaml
- conf_starex2400_mode0_demo2.yaml

Fichiers Observations
- obs_Altair.yaml
- obs_nuit.yaml
- obs_test.yaml
- _altair_20240718_845.yaml
- _hd184767_20240718_854.yaml
- _hd195554_20240718_961.yaml
- _qrvul_20240718_902.yaml
- _v442and_20240718_997.yaml

```
Documents/Prism/2024_07_18\obs_Altair.yaml
Repertoire d'observations :  C:/Users/valer/
Documents/Prism/2024_07_18
version :  2.1
```

The window can be enlarged. The two docks can be independently enlarged, moved to the left or bottom, or even detached as independent windows. To re-dock floating panels, double-click on their title bar.

The interface style depends on the system interface style. In the case below, Windows11 Dark mode.

The application remembers your interface layout for the next launch.

Language management

To change the default language from French to English, click on the 'Fr' button, then restart the application.

Version check

If you have an Internet connection, the application checks the current version number on the website. If the version is different, the version color changes to red.

Configuration / Observations

The size of the two zones can be adjusted by moving the mouse between the configuration and comments zones.

On the left panel :

- Access to configuration files in the *_configuration* directory for simple text editing.
- Access to observation files if you have entered a directory in the observations area of the

To start processing, click on Go!

The *Go!* button launches the configuration script selected in the Configuration tab.

Please note: the "Go!" button saves changes to the Observations file. It is currently not possible to manually modify the name of the observation file in the configuration file; it will automatically be replaced by the current observation file.

If you wish to change the default autosave behavior of the observation file, for example to use an Observations file from another program, you will need to manually edit the specinti_ini.yaml file by changing the 'autosave_obs' parameter from True to False.

The *Exit* button is used to terminate the application, saving the application settings. The behavior is the same if you click in the window's close box.

The console does not display information in real time during processing. They will be displayed once processing is complete.

Configurations

The .yaml configuration file is displayed as text in the right-hand area. It can be easily edited. Comments begin with a "#".

When the software itself updates certain keywords, their color changes to green.

To save a modified file, simply enter its new name and click on the "Save" button.

Configuration tips

You can search for a word in the text of the configuration file using the "Search" button and the associated text box.

You can also navigate to a specific line number using the "line" button and the associated text box.

Comments

This section is a wizard for reading and generating an observation file. - The *yaml* file will be saved in the observations directory.

Select the observation directory using the *Browse* button. This is to select a directory, not a file.

The list of files with *.yaml* extension in this directory is displayed on the right.

Please note: SpecINTI generates *.yaml* files that copy the configuration used during processing. These files begin with the prefix "_" and should not be confused with observation files.

All fields can be edited manually. You can start from an existing file.

The power of the generator lies in the "Auto" function - this automatically fills in the fields, filling in only the list of objects and the names of the offset, dark and flat master images.

To do this, you need to fill in the prefixes and postfixes of your image names.

- Image file postfix : indicates the separating character(s) between the root name and the image number in the sequence. For example "-" for sequences of type "etoile-1 ", "etoile-2 "... "etoile n".
- Calibration file prefix: indicates the character(s) before the root name of the calibration file. For example, "a" for "aetoile-1". This field remains empty if the prefix is not used in your standard.
- Calibration file postfix: indicates the character(s) after the root name of the calibration file. For example, "_neon-" for "etoile_neon-1".

Enter the list of object titles in a Simbad-compatible format.

```
Example: "EW Lac", "Altair", "HD 6226
```

Spaces must be respected. Names should be separated by commas, followed or not by a blank.

```
Example:   Altair, EW Lac, 60 Cyg, omi Cas
```

Enter the names of the offset, black and flat images WITH their postfixes

```
Example    "o-", "n300-", "f-"

           or
           "_offset", "_dark", "_flat"
```

Master images must be present in the observation directory.

At this point, you can click on "**Autofill**" if your file naming standard complies with the convention described. The fields Image List, Number of images per object, Calibration List, number of calibration images, as well as the number of offset, black and flat images will be automatically filled in. The operations performed are as follows:

- Removes spaces in object identifiers to create the root name with its postfix. For example, "EW Lac" becomes "EWLac-".
- For each object, count the number of images in the object sequence with the root name image.
- Adds prefixes and postfixes to root names to create calibration file names, for each object.
- Counts the number of offset, black and flat images, or retains "0" if only one image is found to be compatible with the specINTI standard. If the number of images is "0", specINTI uses the image name as a master image already generated.

It is therefore important to name the images at the time of acquisition in accordance with this convention, so that the auto-fill function fills in all the fields with a single click.

Example of acquisition names for stars:
`gamcas-1, v442and-1, HD192685-1`

Example of acquisition names for calibration images :
`gamcas_neon-1, v442and_neon-1, hd19265_neon-1`

or with a prefix:
`agamcas-1, av442and-1, ahd192685-1`

Example of automatic filling after manually filling the list of object names (and master images):

C:/Users/valer/Documents/Prism/2024_07_18

Noms objets : HD 184767, HD 195554, QR Vul, V442 And
Nom images : HD184767-, HD195554-, QRVul-, V442And-
Nb Images : 6, 5, 5, 6
Image calib : aHD184767-, aHD195554-, aQRVul-, aV442And-
Nb Img calib : -1, -1, -1, -1

Trans Atm : None, None, None, None
Décalage Flat : 0, 0, 0, 0

Offset : _offset Nb 0
Dark : _dark Nb 0
Flat : _flat Nb 0

Image postfix : -
Calibration prefix : a
Calibration postfix : -

obs_nuit

If you are not using a naming standard, or if you wish to modify the name(s) or number(s), you can of course edit each field manually. For example, if a calibration image has not been made for an object, you can edit it to replace it with the name of another calibration file closest in time.

You can also start from an existing observation file. To do this, click on one of the files in the list on the right. This can be useful for correcting an error or modifying a parameter.

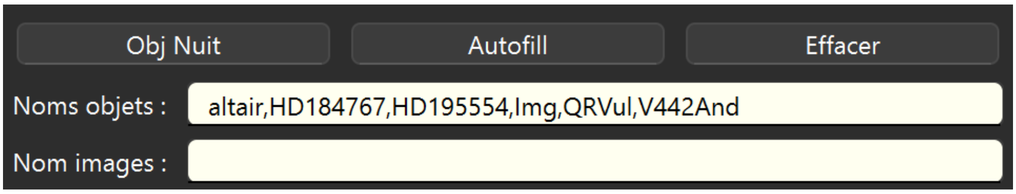
Finish by entering the name of the "observations" file and click Save to save it. It will be automatically saved when you start processing. Be sure to change the name if you have made any modifications.

Observations tip

If changes are made to any of the fields in the observations section, the profile file name turns red. This indicates that the observations file will be saved with these modifications. If this is not desirable, change the name, and the name will turn white again.

Obj Nuit" button is an additional tool to help list all night objects. Its algorithm is as follows: identify all file names with sequence number -1 and place these file names in the object list. You then need to do a little tidying up to remove irrelevant file names and add a space so that the object name conforms to Simbad's rules as seen above.

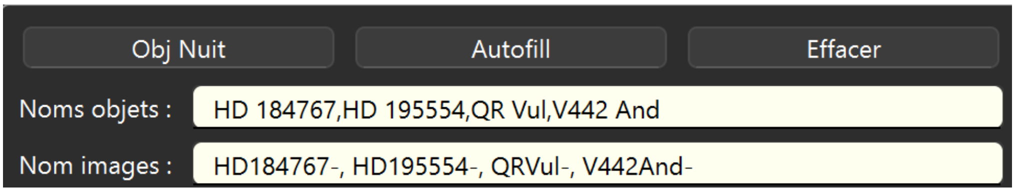
Example on an observation file - the algorithm finds the following names.



Noms objets : altair,HD184767,HD195554,Img,QRVul,V442And

Nom images :

We eliminate altair because it has already been processed, then Img, which was a test image, and we add the blanks to name the simbad objects. Finally, we click on AutoFill.



Noms objets : HD 184767,HD 195554,QR Vul,V442 And

Nom images : HD184767-, HD195554-, QRVul-, V442And-

Advanced mode

- atm trans file list: list of atmospheric transmission files by object
- Flat offset list: flat offset in pixels for correction by object

See specINTI documentation for their use.

By default, lists are initialized to : None and 0 with their number in the list matching the number of objects.

GO!

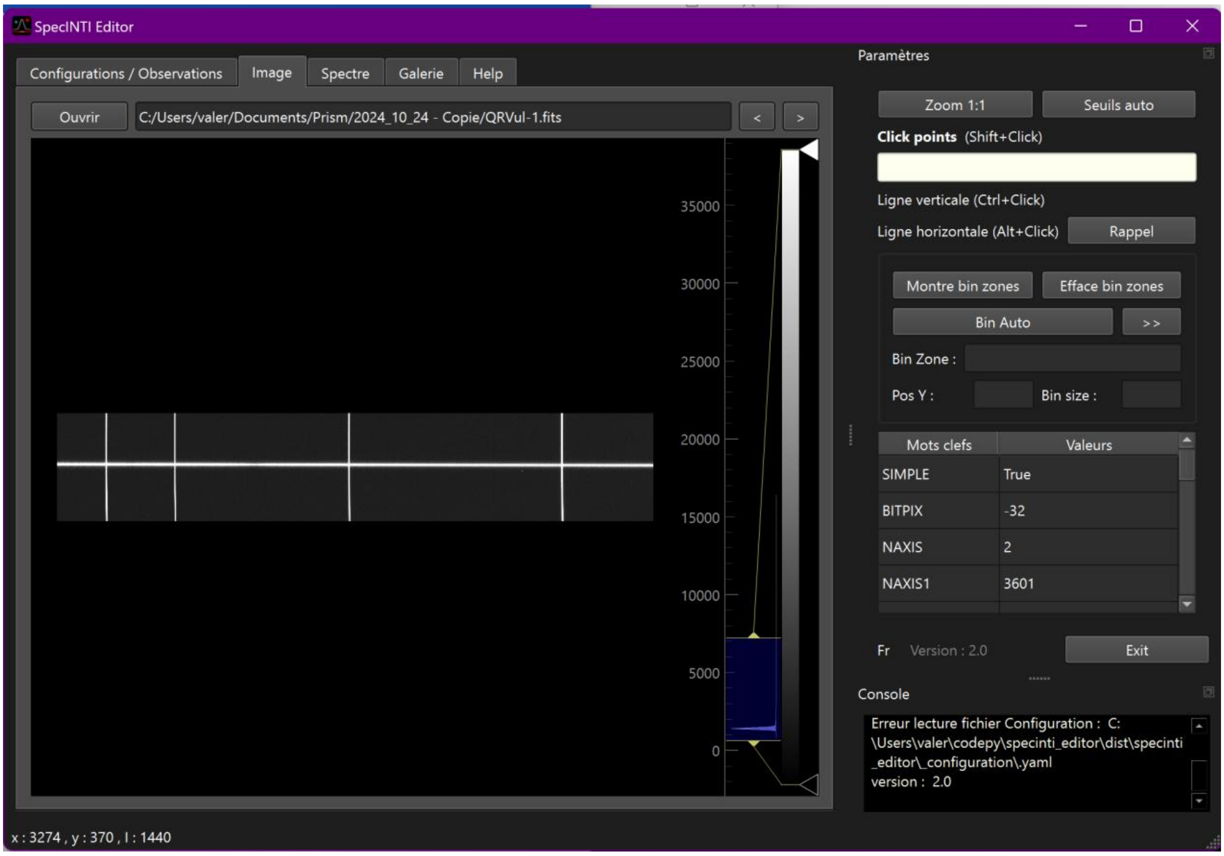
To start processing, click on the GO! button.

The software saves the observation file and the configuration file automatically, under the names indicated in their respective fields.

Console messages are displayed in the small console docked in the bottom right-hand corner. But beware: during processing, the messages will only be displayed at the end of the process... It is therefore advisable to keep access to the application's terminal console, which is sometimes behind the interface, so remember to be able to access it...

Image

Displays *2D fits*



C:/Users/valer/Documents/Prism/2024_10_24 - Copie/QRVul-1.fits

Mots clefs	Valeurs
SIMPLE	True
BITPIX	-32
NAXIS	2
NAXIS1	3601

```
Erreur lecture fichier Configuration : C:
\Users\valer\codepy\specinti_editor\dist\specinti
_editor\_configuration\.yaml
version : 2.0
```

x : 3274 , y : 370 , I : 1440

Image tips

You can now zoom and move the image with the mouse and its scroll wheel. The "zoom 1:1" buttons force the image to be displayed without zoom factor - if you've zoomed out or moved the image too far in the viewing area, right-click "view all" to bring the image back to center.

Contrast and brightness are controlled by two thresholds, high and low, which can be adjusted with the mouse in the histogram area to the right of the image.

The x,y and intensity values of the pixel are displayed in the bottom left-hand area of the window.

A right mouse click brings up a context menu in the PyQtGraph library, allowing you to export the image as a png, for example.

If the image is part of a numbered sequence such as name-1, name-2 ... name-n, clicking on the <> buttons will automatically display the next or previous image in the sequence. The image name field is also editable. To accept changes to the name, confirm with "enter".

Display yellow vertical lines with Ctrl+click (or "command" for Mac) in the image, red horizontal lines with Alt+click (or Option for Mac). To delete them, click again on the line with Ctrl or Alt, depending on the type of line.

Recall the position of the last horizontal line on another image with the "Recall horizontal line" button.

Shift+click records x positions of spectral lines by moving the mouse over the position. The x-positions are added one after the other in the 'Click Points' text box. This area can be edited.

To copy an entire text zone, press Ctrl+A, then Ctrl+C - you can then go to the configuration tab to paste the line positions behind the appropriate keyword.

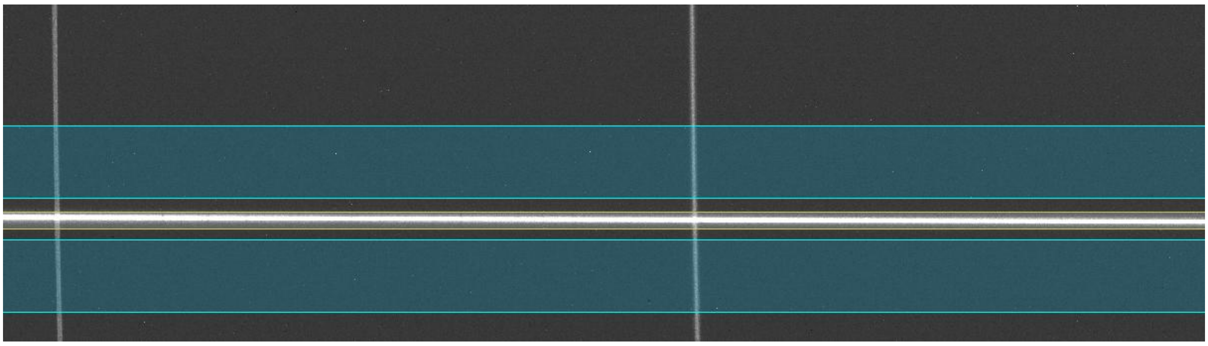
The automatic binning function is now operational. It uses specINTI's internal functions to find the position of the spectrum, possibly straightening the trace to a central zone by calculating the local tilt angle. A complementary algorithm estimates the spectrum boundaries and adjusts the sky binning zones on either side of the binning zone. The 'posY' values of the spectrum trace, the 'bin_size' binning zone size and the 'bin_zone' sky binning zone are updated.

The ">>" button transfers the bin_sky and sky values to the configuration file. The y position of the spectrum is not updated for security reasons.

You can also edit them and graphically check their dimensions and positions using the "show bin zone" button

These zones can be adjusted with the mouse. The sky binning zones are shown in blue, while the spectrum binning zone is shown in zone. Click on a zone to move it. Move the mouse over one of the lines bordering the zones; this line turns red, then click and drag with the mouse. Values are updated in the corresponding fields.

Click on the Erase bin zone button to remove the display from the image.



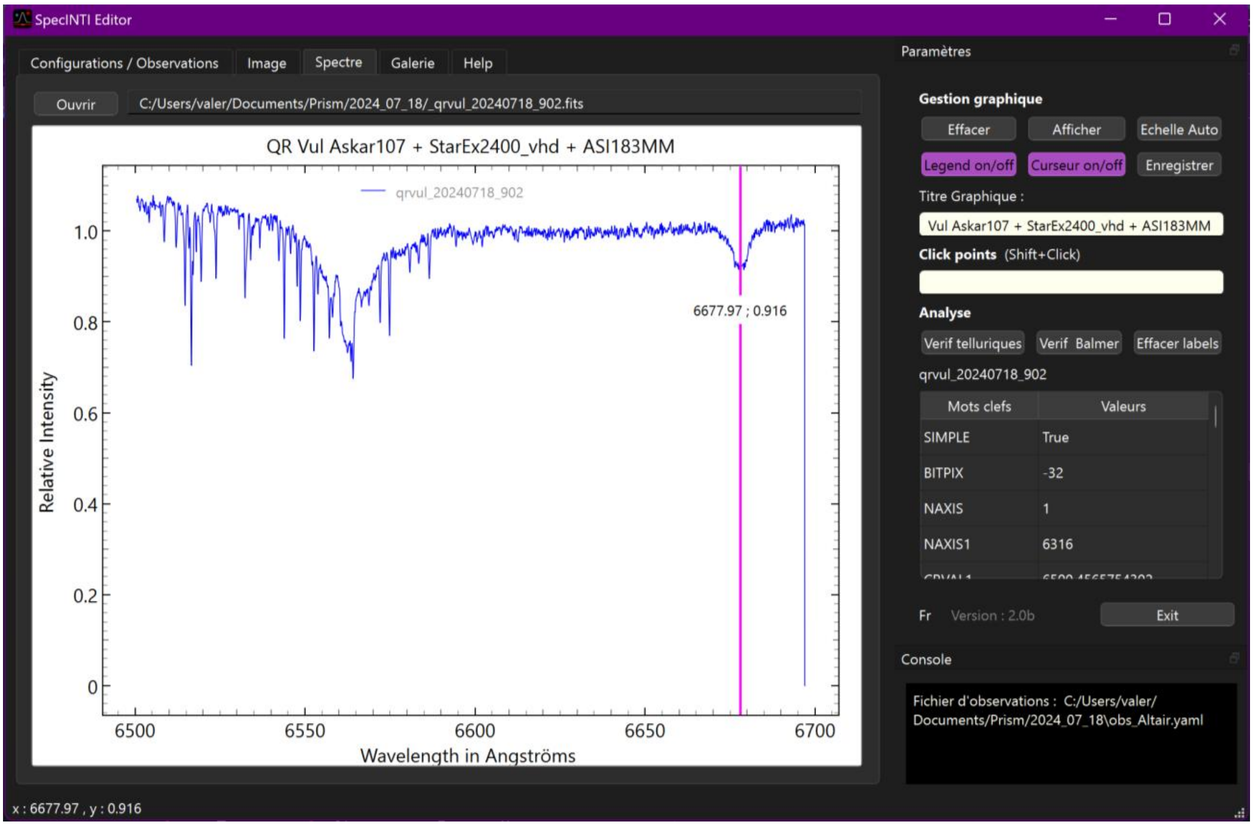
The image file header is displayed but cannot be edited.

Spectrum

Displays spectral profiles, 1D *fits* file

Open the *fits* file with the *Open* button.

If a 2D image fits file is selected by mistake, a message will be displayed in the console. The file's *fits* header is also displayed on the right.



C:/Users/valer/Documents/Prism/2024_07_18/_qrvul_20240718_902.fits

Titre Graphique : Vul Askar107 + StarEx2400_vhd + ASI183MM

qrvul_20240718_902

Mots clefs	Valeurs
SIMPLE	True
BITPIX	-32
NAXIS	1
NAXIS1	6316

```
Fichier d'observations : C:/Users/valer/
Documents/Prism/2024_07_18\obs_Altair.yaml
```

x : 6677.97 , y : 0.916

Spectre tips

Use the mouse wheel to zoom in and out.

To zoom in on one axis only, use the right mouse click: move horizontally to zoom in on the x-axis, and move vertically to zoom in on the y-axis.

You can return to automatic scaling at any time by clicking on the "Auto scale" button, or by clicking on the small "A" icon in the bottom left-hand corner of the graph.

The legend and a vertical cursor are displayed by default. They can be hidden using the "legend on/off" and "cursor on/off" buttons.

The legend can be moved with the mouse

The cursor can be moved with the mouse along the profile, displaying wavelength and intensity values.

When a file is opened, a chart title is formed with the header information. Changes can be made in the text zone. To validate changes, don't forget to press 'enter'.

Right-click in graph area to export to png or axis values

The "Save" button allows you to save the profile under a different name, and then run it again with different parameters for comparison.

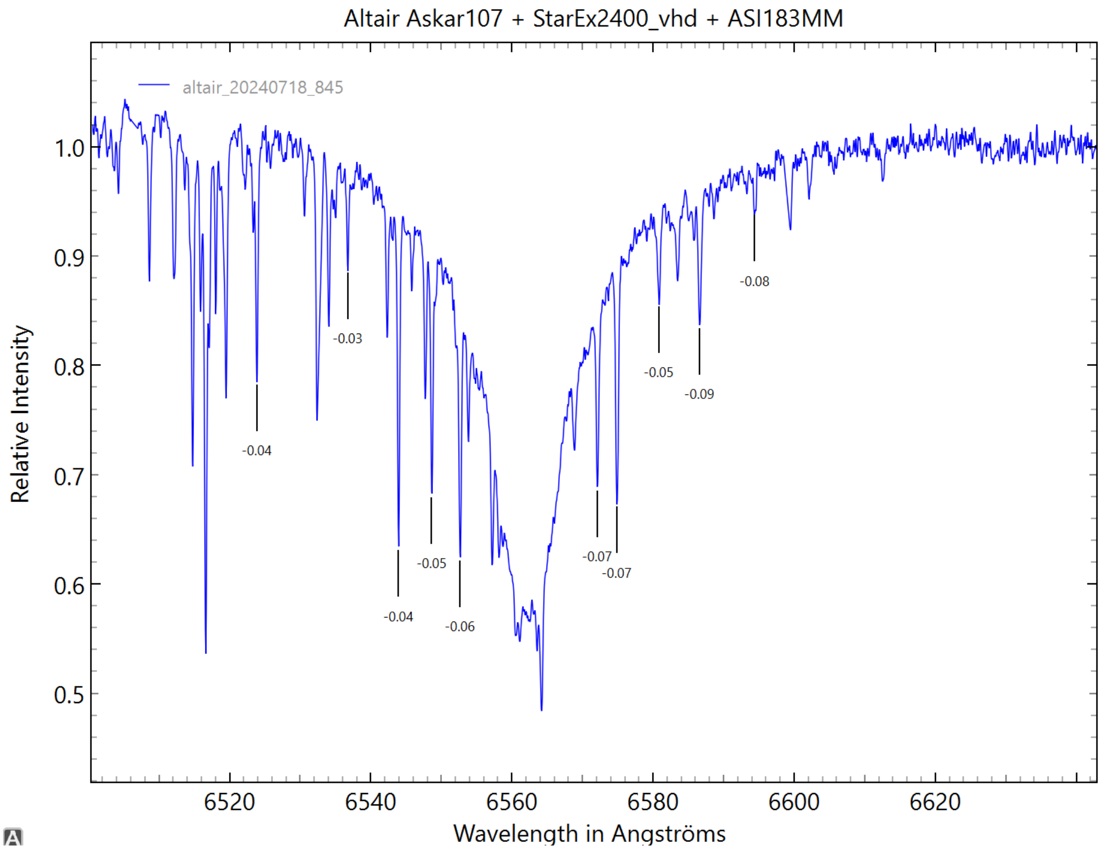
It is possible to manually enter or modify a file name; press "enter" to validate changes.

Some header fields can be edited in the grid on the right. Only the following text fields are editable: 'OBJECT', 'OBJNAME', 'BSS_SITE', 'BSS_INST', 'OBSERVER', 'BSS_TELL', 'BSS_NORM', and you can save the file with these modifications using the "save" button.

The analysis section lets you check wavelength calibration using the "verif telluriques" tool for high-resolution spectra and the "verif balmer" tool for medium- and low-resolution spectra. The "clear labels" button deletes the annotations produced, but only the most recent ones. To clear all labels, use the "clear" button and the "display" button, which redisplays the spectrum.

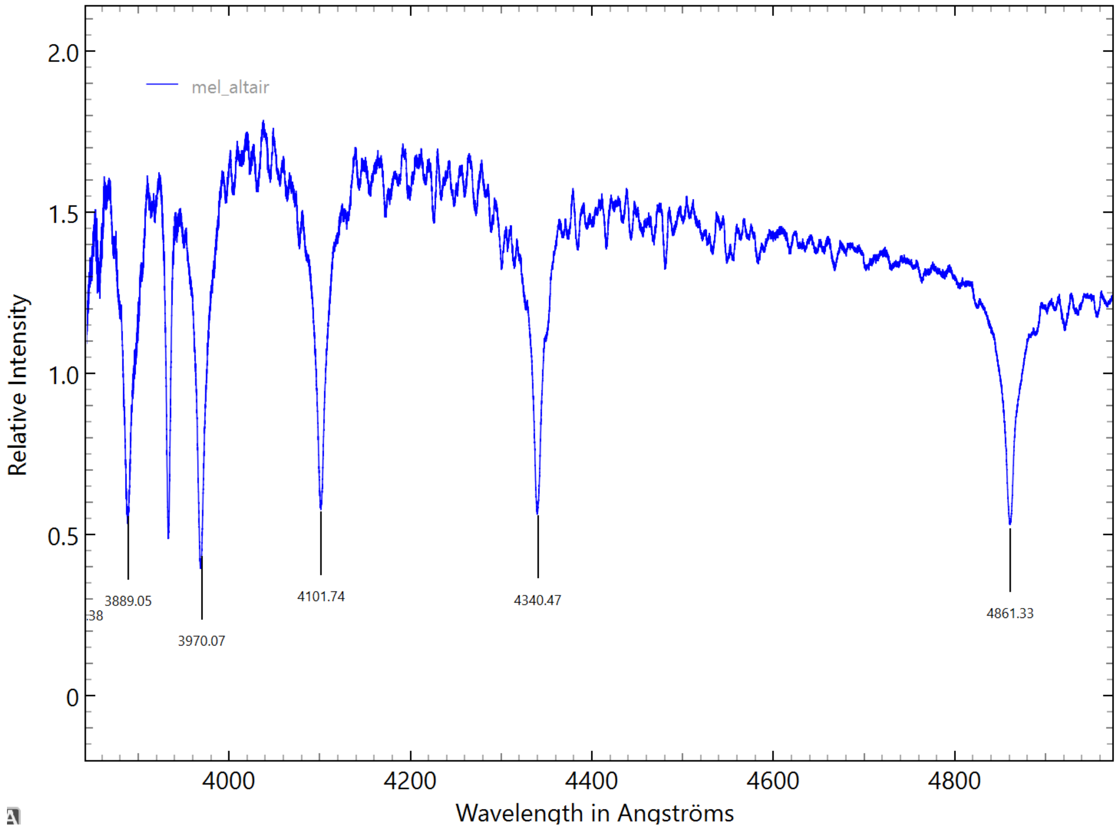
Verif Telluriques

Displays the position of telluric lines - useful for checking the wavelength calibration of a high-resolution spectrum.



Balmer check

Displays the position of balmer lines - useful for verifying the wavelength calibration of low-resolution spectra.

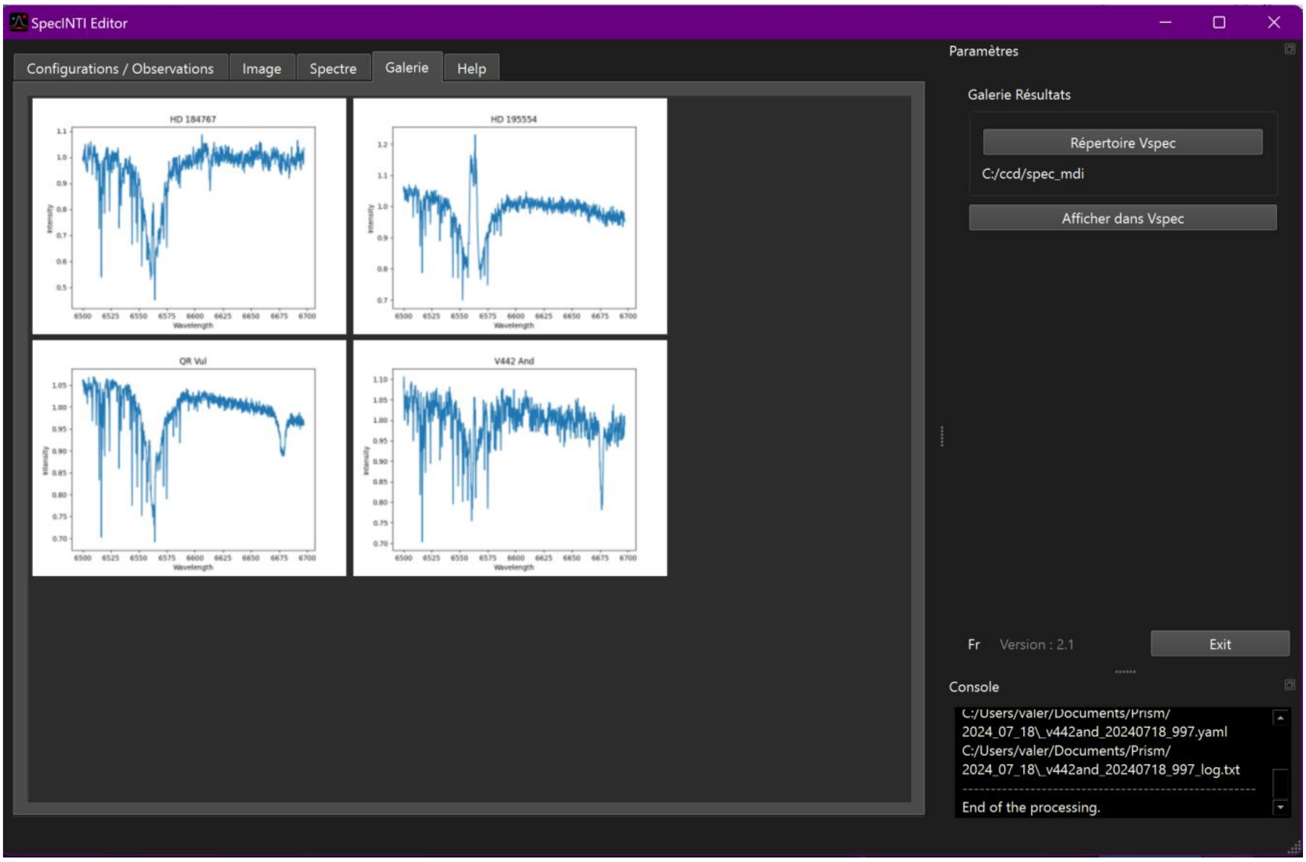


Gallery

Thumbnail display of specINTI treatment results

You can double-click a thumbnail to view it automatically in the Spectrum tab.

You must select the Vspec.exe directory to activate the option to open files processed in visual spec. This function is not active under Mac OS.



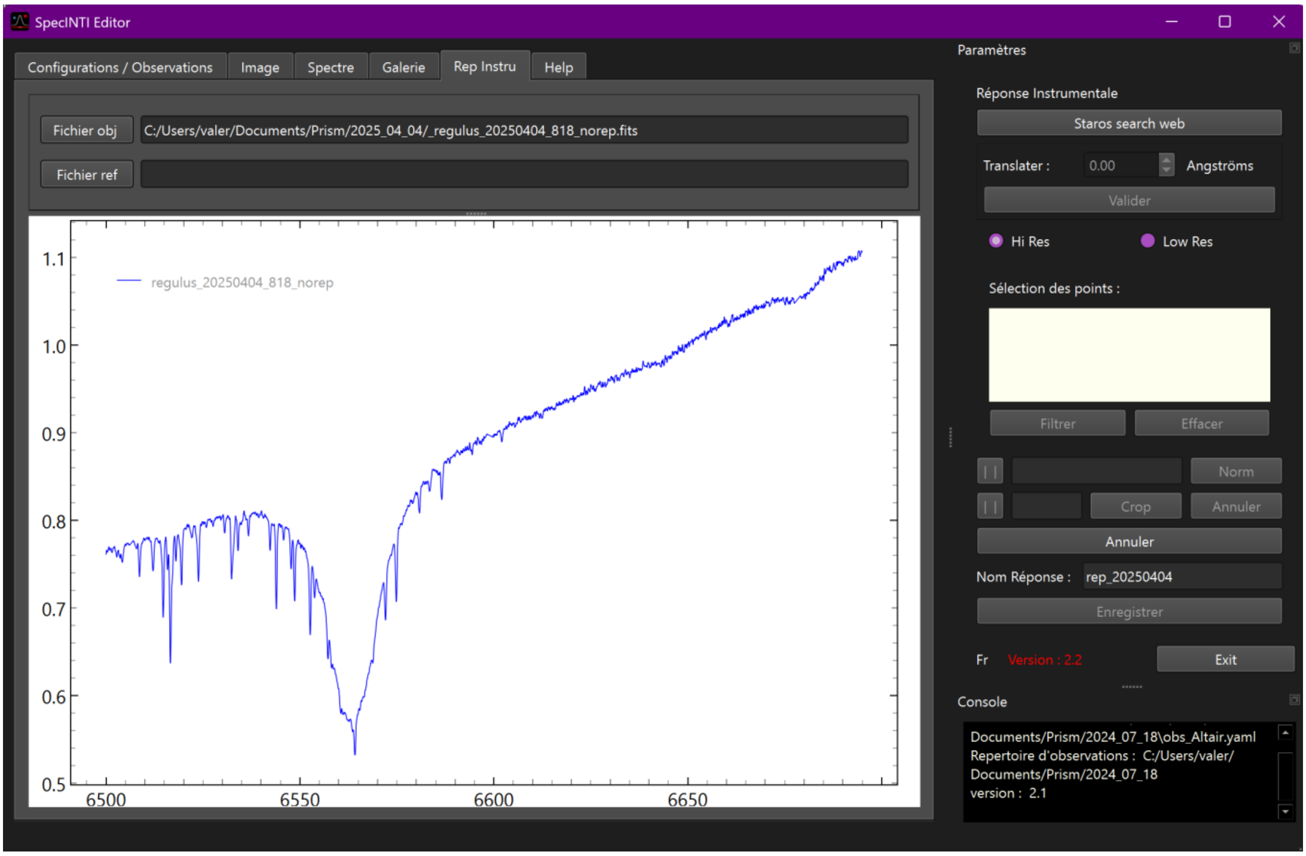
C:/ccd/spec_mdi

Version : 2.1

```
C:/Users/valer/Documents/Prism/
2024_07_18\_v442and_20240718_997.yaml
C:/Users/valer/Documents/Prism/
2024_07_18\_v442and_20240718_997_log.txt
--------------------------------------------------
End of the processing.
```

Rep Instru

This tab allows you to calculate the instrumental response in a more graphical form than with the specinti scripts.



Fichier obj: C:/Users/valer/Documents/Prism/2025_04_04/_regulus_20250404_818_norep.fits

Translater : 0.00 Angstroms

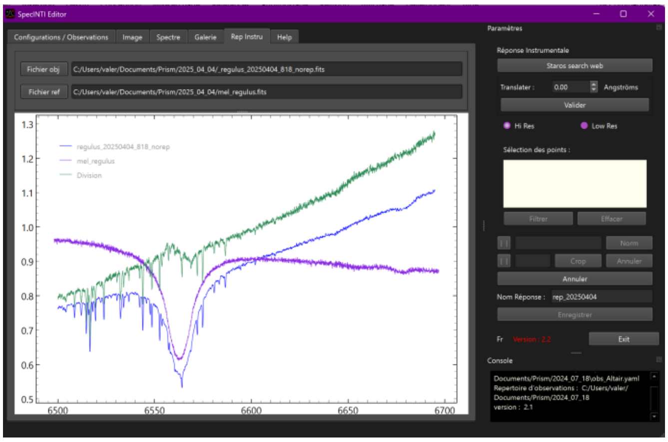
Nom Réponse : rep_20250404

```
Documents/Prism/2024_07_18\obs_Altair.yaml
Repertoire d'observations : C:/Users/valer/
Documents/Prism/2024_07_18
version : 2.1
```

Load the profile of the observed object using the "File Obj" button

Load the theoretical profile of the same object, which you may have retrieved from the staros-search.org website, directly accessible via the "Staros search web" button. You need to be registered to obtain the fits file. The reference file must be placed in the observation directory, the same directory as the object profile.

The interface automatically displays the division of the observed object profile by the theoretical profile.



Fichier obj: C:/Users/valer/Documents/Prism/2025_04_04/_regulus_20250404_818_norep.fits

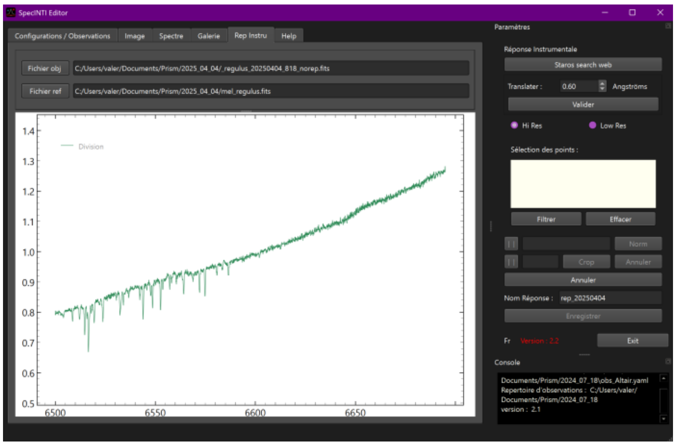
Fichier ref: C:/Users/valer/Documents/Prism/2025_04_04/mel_regulus.fits

Translater : 0.00 Angströms

Nom Réponse : rep_20250404

In the panel on the right, adjust any wavelength offset. Either by increments of 0.1 with the arrows or by editing the value then enter.

Once you've found the right value, click on the "Validate" button to display only the result of the division.



Fichier obj: C:/Users/valer/Documents/Prism/2025_04_04/_regulus_20250404_818_norep.fits

Fichier ref: C:/Users/valer/Documents/Prism/2025_04_04/mel_regulus.fits

Translater : 0.60 Angströms

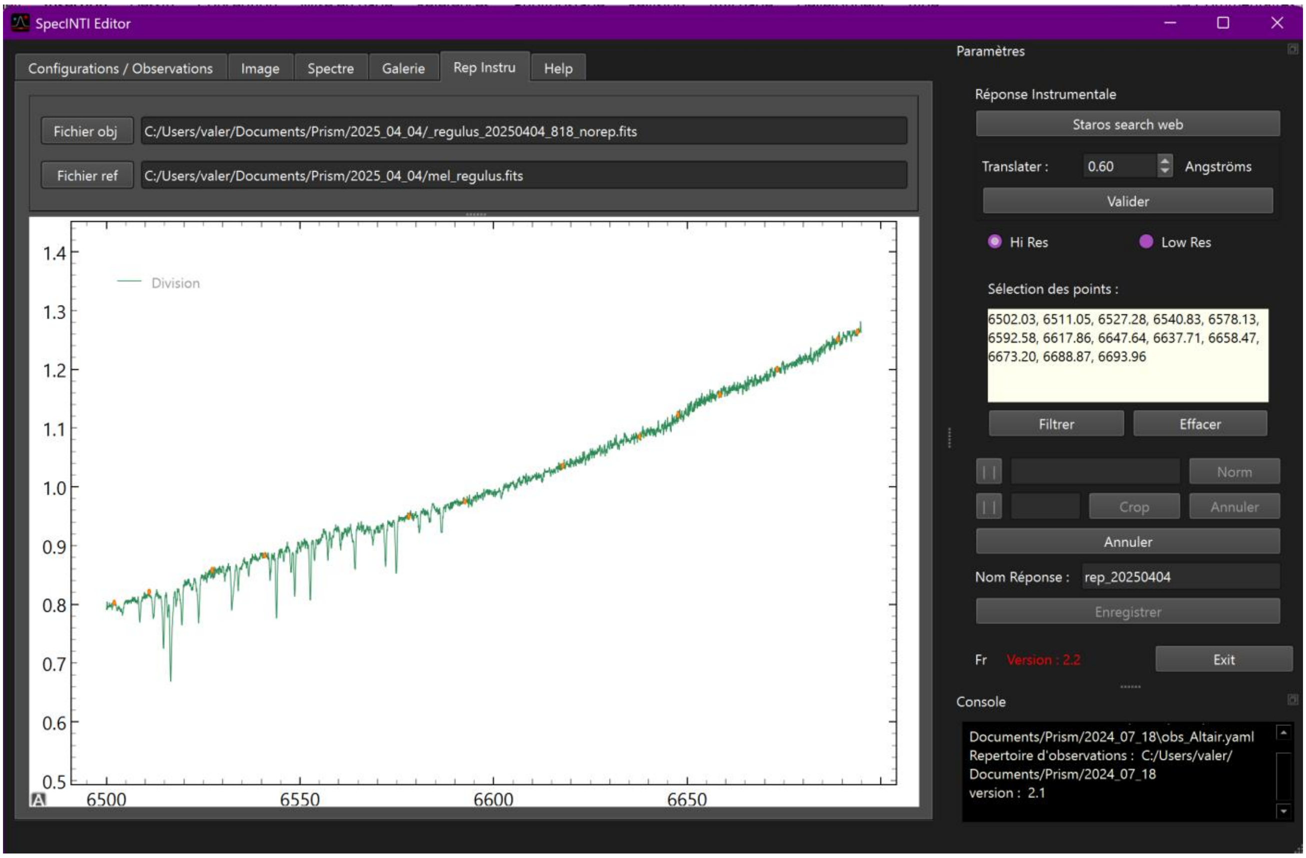
Sélection des points :

Nom Réponse : rep_20250404

```
Documents/Prism/2024_07_18\obs_Altair.yaml
Repertoire d'observations : C:/Users/valer/
Documents/Prism/2024_07_18
version : 2.1
```

To construct the response curve, telluric lines and noise variations must be eliminated. Two modes are available: the "HiRes" mode recommended for high-resolution spectra, or the "LowRes" mode for low-resolution spectra. The difference lies in the method used to construct the response, either by fitting a curve on points, or by filtering the profile after removing areas disturbed by spectral lines.

HiRes mode



Fichier obj: C:/Users/valer/Documents/Prism/2025_04_04/_regulus_20250404_818_norep.fits

Fichier ref: C:/Users/valer/Documents/Prism/2025_04_04/mel_regulus.fits

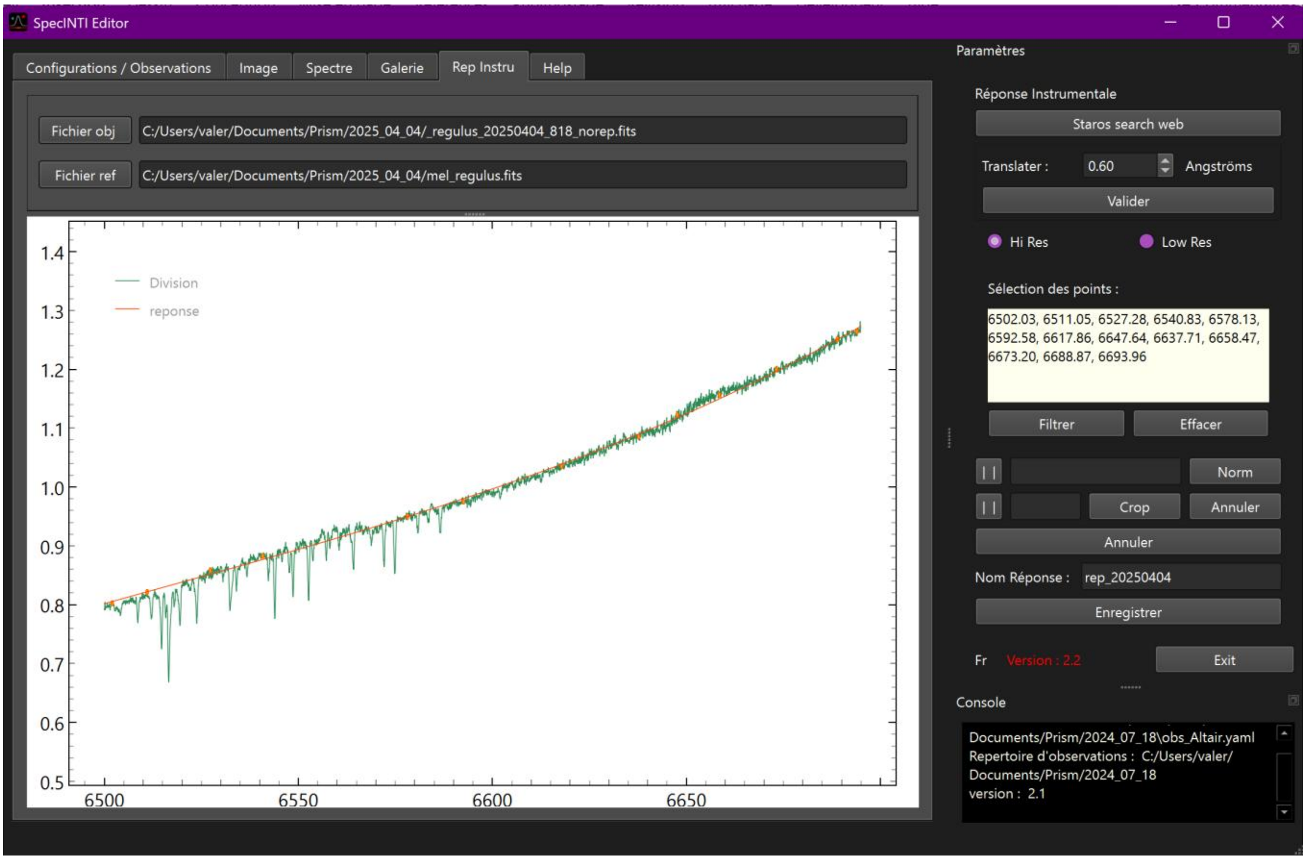
Translater : 0.60 Angströms

Sélection des points : 6502.03, 6511.05, 6527.28, 6540.83, 6578.13, 6592.58, 6617.86, 6647.64, 6637.71, 6658.47, 6673.20, 6688.87, 6693.96

Nom Réponse : rep_20250404

```
Documents/Prism/2024_07_18\obs_Altair.yaml
Repertoire d'observations : C:/Users/valer/
Documents/Prism/2024_07_18
version : 2.1
```

Using the mouse, place points on the divider curve, avoiding areas with spectral lines. Once the points have been placed, click on the "filter" button to display the instrumental response curve in orange.



Fichier obj: C:/Users/valer/Documents/Prism/2025_04_04/_regulus_20250404_818_norep.fits

Fichier ref: C:/Users/valer/Documents/Prism/2025_04_04/mel_regulus.fits

Translater : 0.60 Angströms

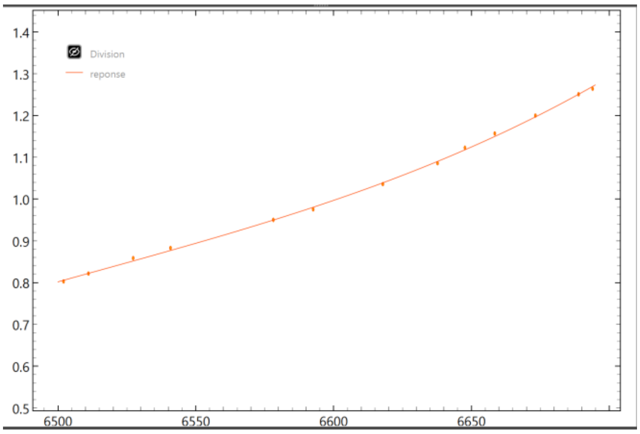
● Hi Res ● Low Res

Sélection des points : 6502.03, 6511.05, 6527.28, 6540.83, 6578.13, 6592.58, 6617.86, 6647.64, 6637.71, 6658.47, 6673.20, 6688.87, 6693.96

Nom Réponse : rep_20250404

```
Documents/Prism/2024_07_18\obs_Altair.yaml
Repertoire d'observations : C:/Users/valer/
Documents/Prism/2024_07_18
version : 2.1
```

If you click in the legend on the little green line in front of the name division, you can hide the division display, the green curve and thus better see the orange response curve.

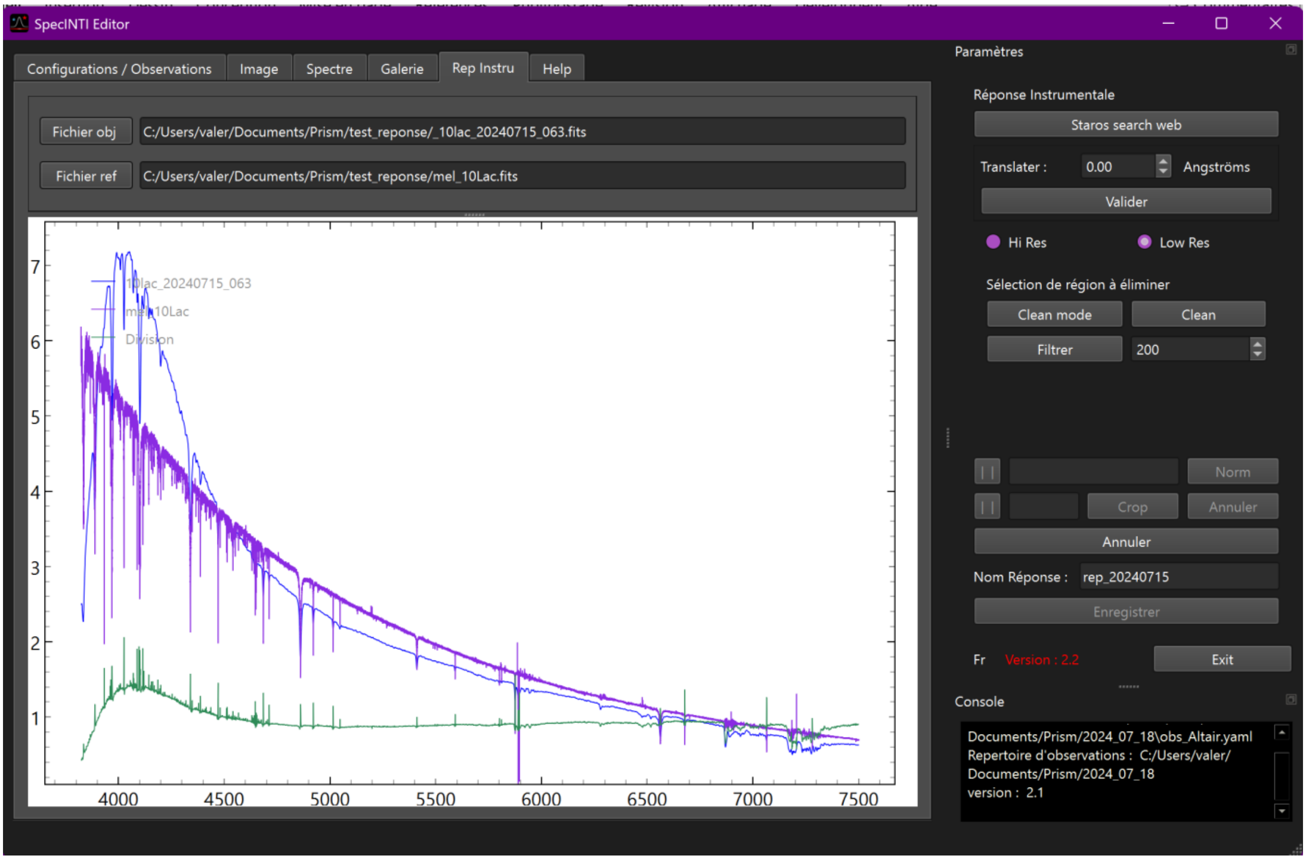


You can delete the points and start the placement again with the "delete" button.

You can cancel and return to the pre-validation stage using the "Cancel" button.

By default, the application suggests a name consisting of the prefix rep_ followed by the observation date of the object observed - click on the "Save" button to save your instrumental response.

LowRes" mode



Fichier obj: C:/Users/valer/Documents/Prism/test_reponse/_10lac_20240715_063.fits

Fichier ref: C:/Users/valer/Documents/Prism/test_reponse/mel_10Lac.fits

Translater : 0.00 Angströms

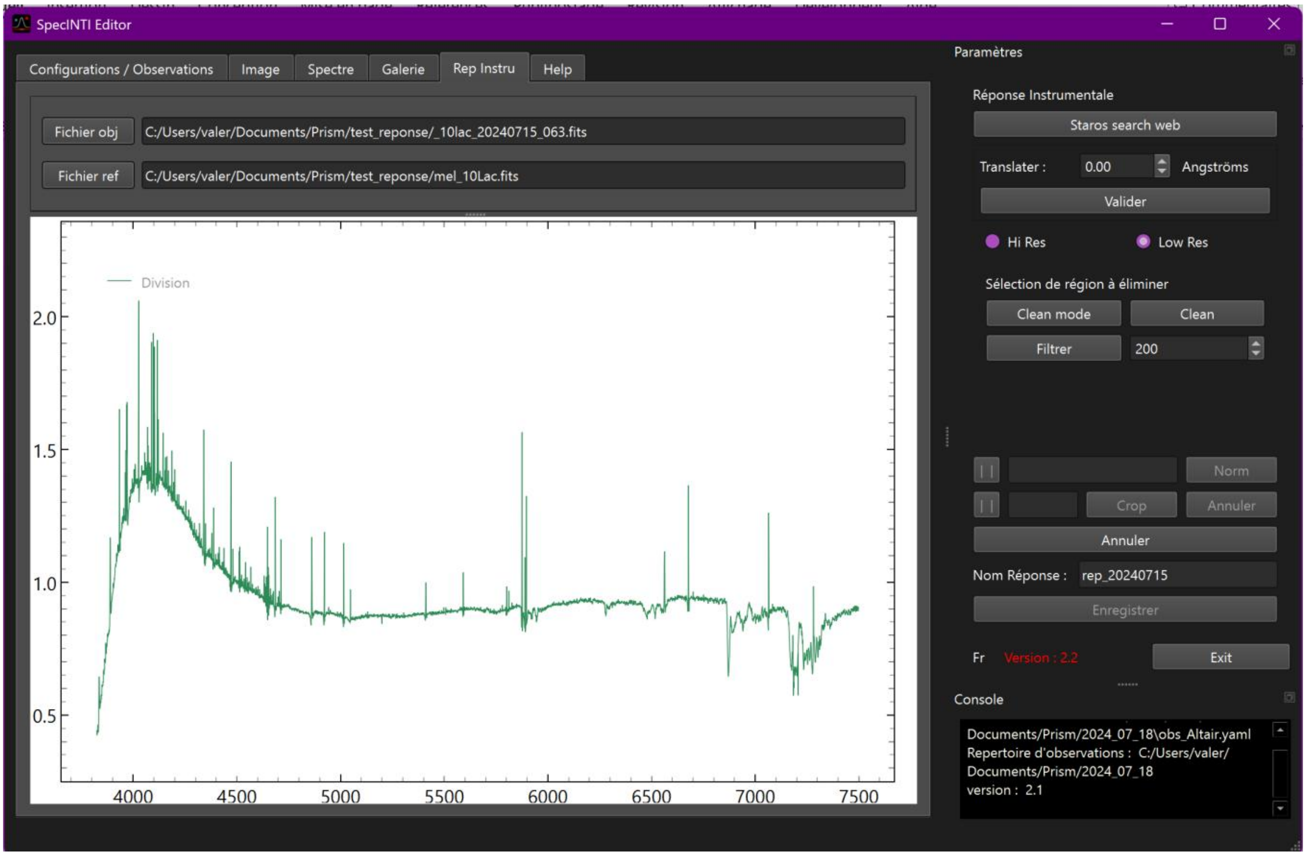
Filtrer 200

Nom Réponse : rep_20240715

```
Documents/Prism/2024_07_18\obs_Altair.yaml
Repertoire d'observations : C:/Users/valer/
Documents/Prism/2024_07_18
version : 2.1
```

You can zoom in to check if wavelength adjustment is required.

Click on the "Validate" button to validate the division.



Fichier obj: C:/Users/valer/Documents/Prism/test_reponse/_10lac_20240715_063.fits

Fichier ref: C:/Users/valer/Documents/Prism/test_reponse/mel_10Lac.fits

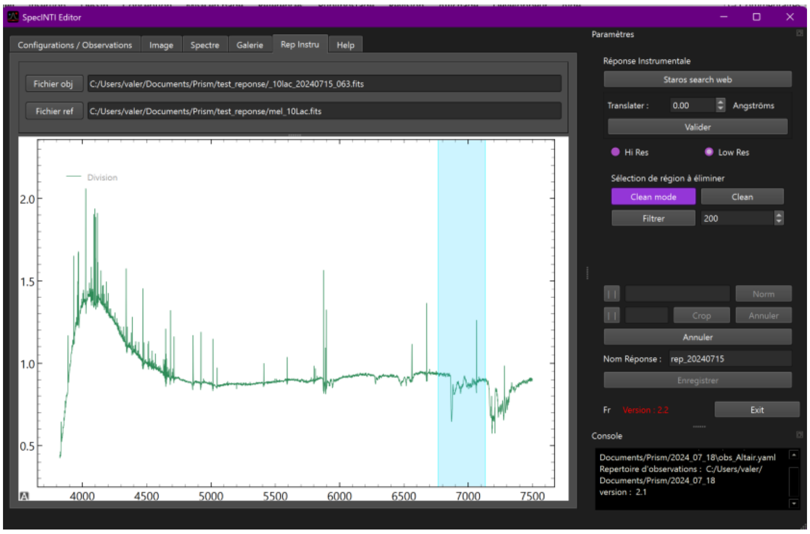
Translater : 0.00 Angströms

Filtrer 200

Nom Réponse : rep_20240715

```
Documents/Prism/2024_07_18\obs_Altair.yaml
Repertoire d'observations : C:/Users/valer/
Documents/Prism/2024_07_18
version : 2.1
```

The "LowRes" mode gives access to a "clean" mode - click on the "Clean mode" button to reveal a blue region whose limits can be adjusted with the mouse and moved around.



Fichier obj: C:/Users/valer/Documents/Prism/test_reponse/_10lac_20240715_063.fits

Fichier ref: C:/Users/valer/Documents/Prism/test_reponse/mel_10Lac.fits

Translater : 0.00 Angströms

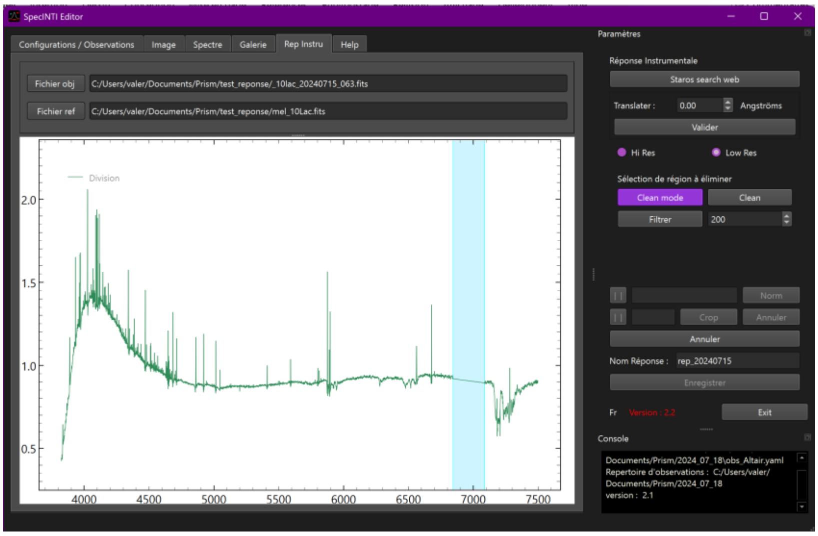
Filtrer: 200

Nom Réponse : rep_20240715

Fr Version : 2.2

```
Documents/Prism/2024_07_18\obs_Altair.yaml
Repertoire d'observations :  C:/Users/valer/
Documents/Prism/2024_07_18
version :  2.1
```

Once positioned on a region to be eliminated, click on the "Clean" button



Fichier obj: C:/Users/valer/Documents/Prism/test_reponse/_10lac_20240715_063.fits

Fichier ref: C:/Users/valer/Documents/Prism/test_reponse/mel_10Lac.fits

Translater : 0.00 Angströms

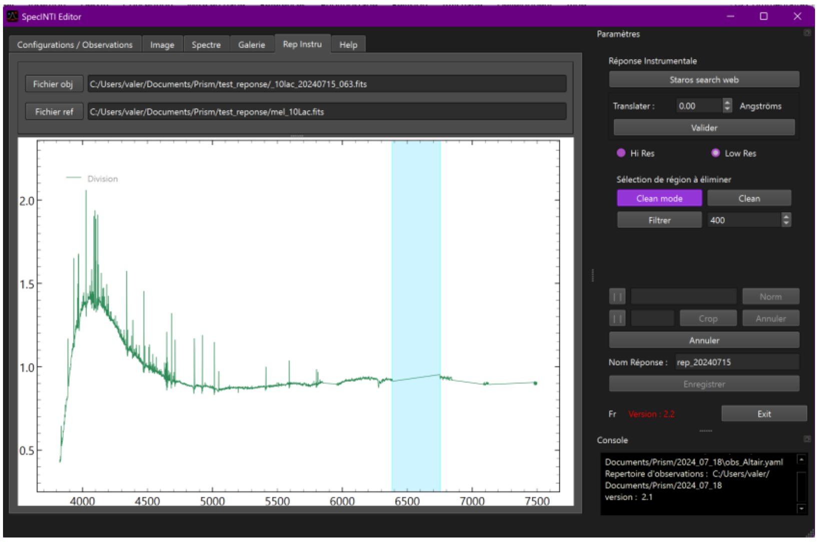
Filtrer: 200

Nom Réponse : rep_20240715

Fr Version : 2.2

```
Documents/Prism/2024_07_18\obs_Altair.yaml
Repertoire d'observations :  C:/Users/valer/
Documents/Prism/2024_07_18
version :  2.1
```

Move the zone, adjusting these boundaries to eliminate other problem areas. Once this "cleaning" work is complete, you can move on to the filtering stage.



Fichier obj: C:/Users/valer/Documents/Prism/test_reponse/_10lac_20240715_063.fits

Fichier ref: C:/Users/valer/Documents/Prism/test_reponse/mel_10Lac.fits

Translater : 0.00 Angströms

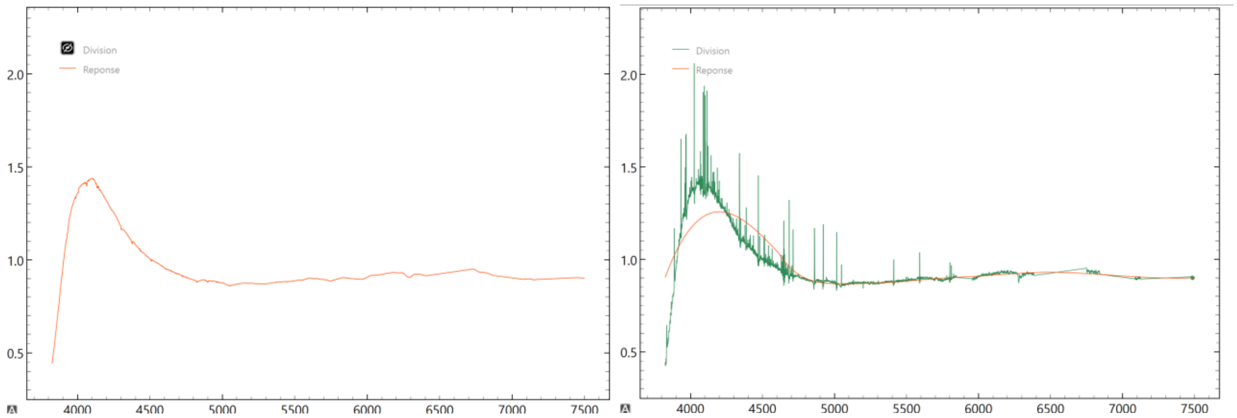
Filtrer: 400

Nom Réponse : rep_20240715

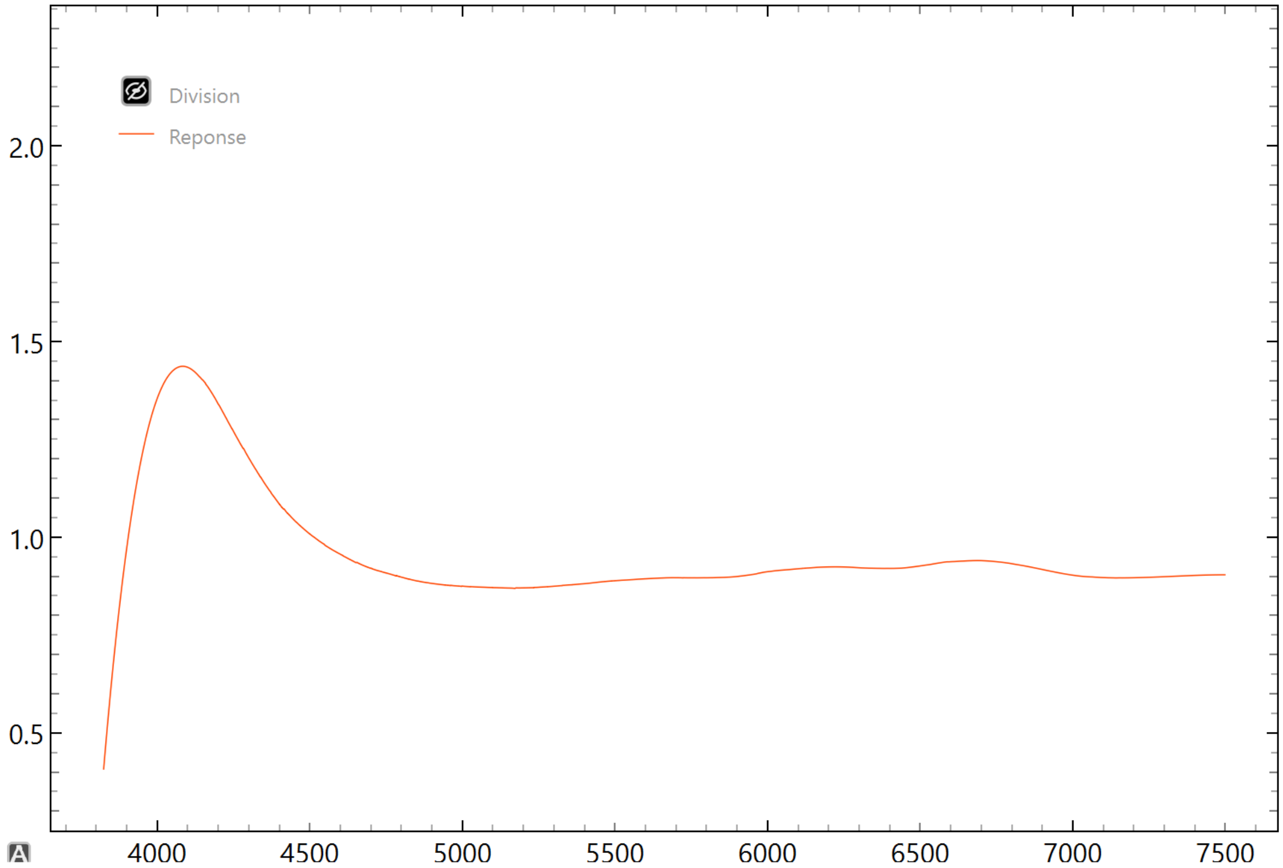
Fr Version : 2.2

```
Documents/Prism/2024_07_18\obs_Altair.yaml
Repertoire d'observations :  C:/Users/valer/
Documents/Prism/2024_07_18
version :  2.1
```

Choose a filter value that is neither too low nor too high. Too low and it won't eliminate large variations in small areas, too high and it will move the top of the profile, for example. On the left, 100, on the right, 2000.

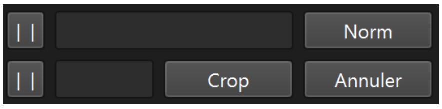


In our example, a value of 400 seems a good compromise.



To change the filter value, enter a new value and click on the "filter" button again, or adjust the value using the arrows.

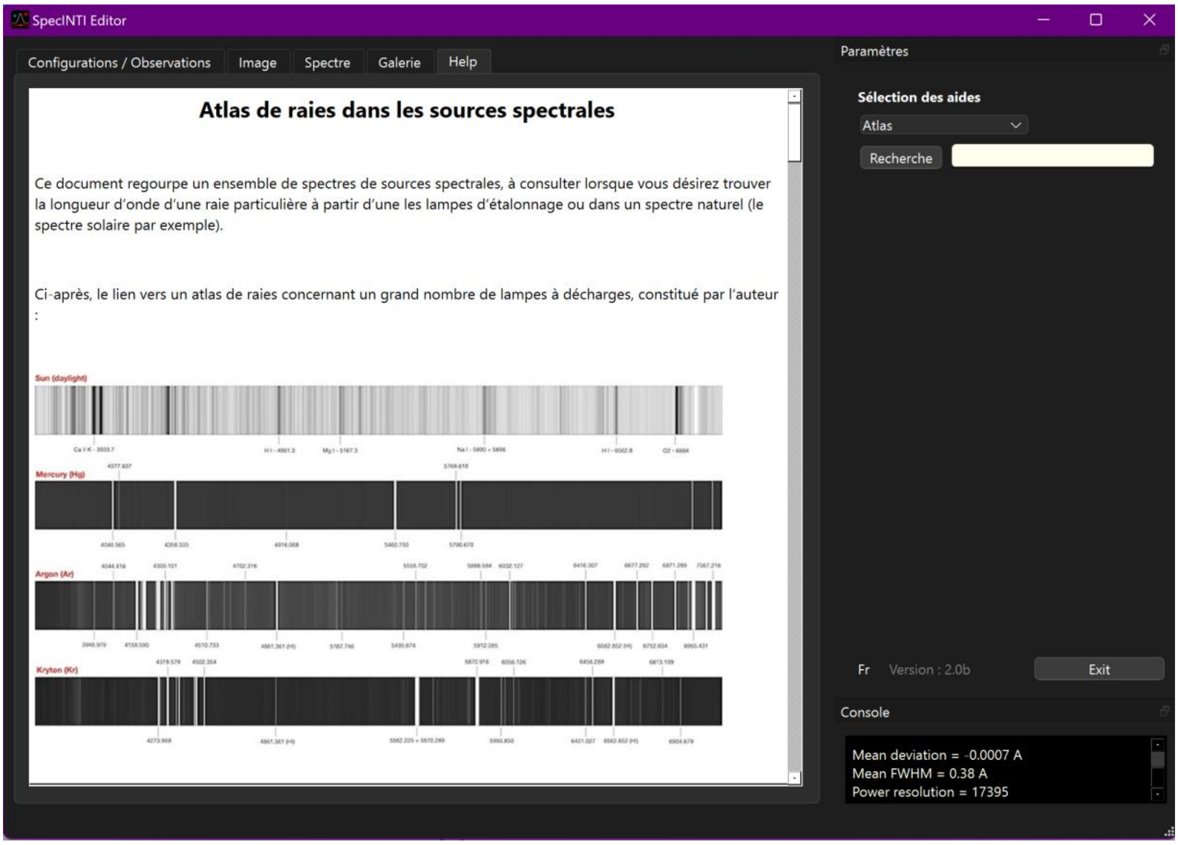
It is also possible to "crop" a profile if slightly extreme values appear at the edges, and to "normalize", i.e. adjust the intensity values in relative intensity over an area of the profile without a spectral line.



Click on the buttons with the vertical bars. Adjust the area, then click on the corresponding "Norm" or "Crop" buttons.

Help

Provides access to four files extracted from the specinti website - select the help file from the drop-down list on the right. A text search is also available with the "search" button and its associated text box.



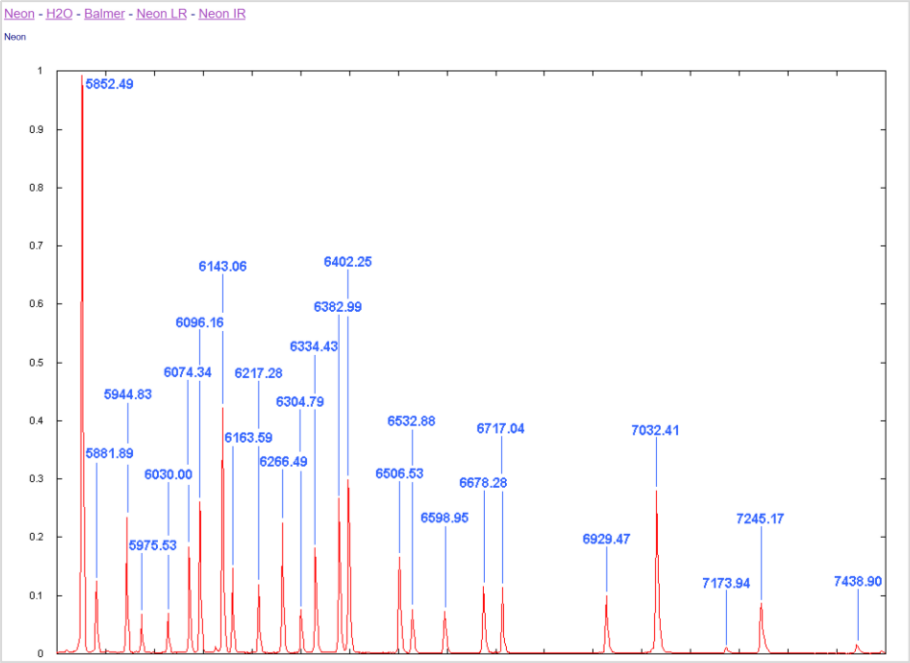
Atlas de raies dans les sources spectrales

Ce document regourpe un ensemble de spectres de sources spectrales, à consulter lorsque vous désirez trouver la longueur d'onde d'une raie particulière à partir d'une les lampes d'étalonnage ou dans un spectre naturel (le spectre solaire par exemple).

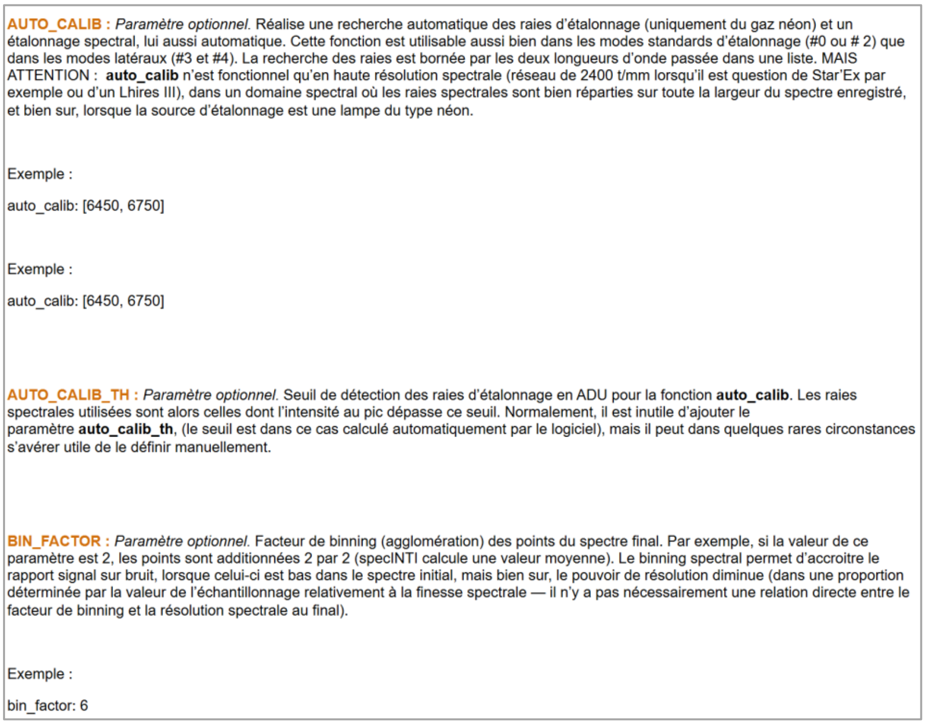
Ci-après, le lien vers un atlas de raies concernant un grand nombre de lampes à décharges, constitué par l'auteur :

```
Mean deviation = -0.0007 A
Mean FWHM = 0.38 A
Power resolution = 17395
```

Diagram - series of annotated spectra



Manuel param - Specinti keyword list



AUTO_CALIB : *Paramètre optionnel.* Réalise une recherche automatique des raies d'étalonnage (uniquement du gaz néon) et un étalonnage spectral, lui aussi automatique. Cette fonction est utilisable aussi bien dans les modes standards d'étalonnage (#0 ou # 2) que dans les modes latéraux (#3 et #4). La recherche des raies est bornée par les deux longueurs d'onde passée dans une liste. MAIS ATTENTION : **auto_calib** n'est fonctionnel qu'en haute résolution spectrale (réseau de 2400 t/mm lorsqu'il est question de Star'Ex par exemple ou d'un Lhires III), dans un domaine spectral où les raies spectrales sont bien réparties sur toute la largeur du spectre enregistré, et bien sur, lorsque la source d'étalonnage est une lampe du type néon.

Exemple :

auto_calib: [6450, 6750]

Exemple :

auto_calib: [6450, 6750]

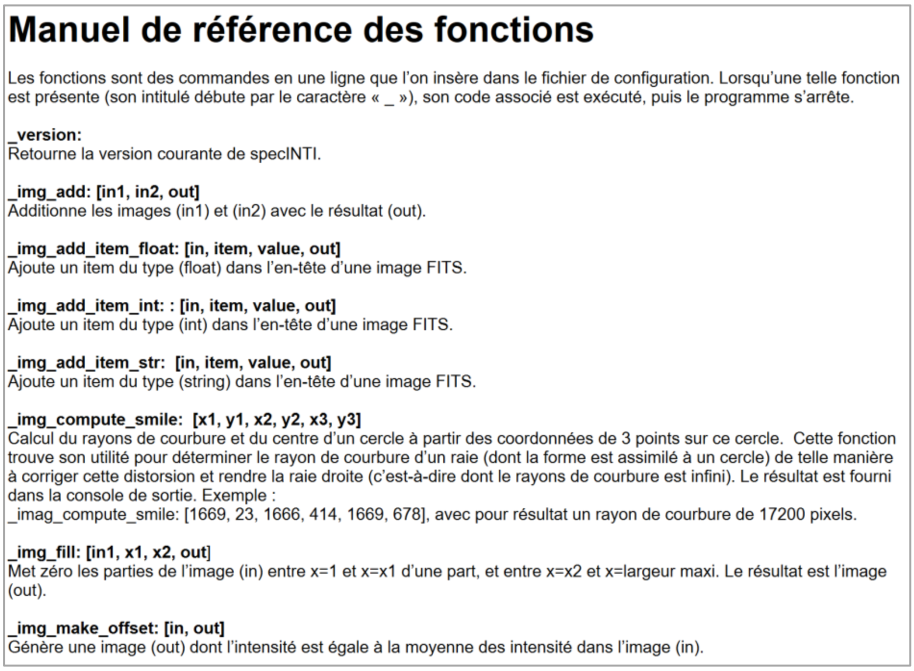
AUTO_CALIB_TH : *Paramètre optionnel.* Seuil de détection des raies d'étalonnage en ADU pour la fonction **auto_calib**. Les raies spectrales utilisées sont alors celles dont l'intensité au pic dépasse ce seuil. Normalement, il est inutile d'ajouter le paramètre **auto_calib_th**, (le seuil est dans ce cas calculé automatiquement par le logiciel), mais il peut dans quelques rares circonstances s'avérer utile de le définir manuellement.

BIN_FACTOR : *Paramètre optionnel.* Facteur de binning (agglomération) des points du spectre final. Par exemple, si la valeur de ce paramètre est 2, les points sont additionnées 2 par 2 (specINTI calcule une valeur moyenne). Le binning spectral permet d'accroitre le rapport signal sur bruit, lorsque celui-ci est bas dans le spectre initial, mais bien sur, le pouvoir de résolution diminue (dans une proportion déterminée par la valeur de l'échantillonnage relativement à la finesse spectrale — il n'y a pas nécessairement une relation directe entre le facteur de binning et la résolution spectrale au final).

Exemple :

bin_factor: 6

Functions manual - list of Specinti script functions



Manuel de référence des fonctions

Les fonctions sont des commandes en une ligne que l'on insère dans le fichier de configuration. Lorsqu'une telle fonction est présente (son intitulé débute par le caractère « _ »), son code associé est exécuté, puis le programme s'arrête.

_version:
Retourne la version courante de specINTI.

_img_add: [in1, in2, out]
Additionne les images (in1) et (in2) avec le résultat (out).

_img_add_item_float: [in, item, value, out]
Ajoute un item du type (float) dans l'en-tête d'une image FITS.

_img_add_item_int: : [in, item, value, out]
Ajoute un item du type (int) dans l'en-tête d'une image FITS.

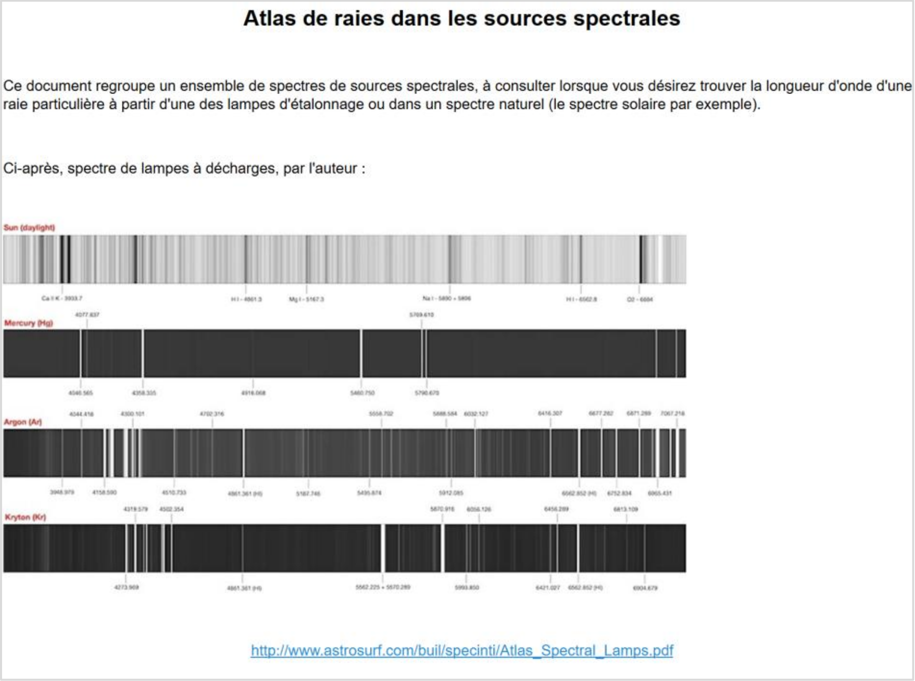
_img_add_item_str: [in, item, value, out]
Ajoute un item du type (string) dans l'en-tête d'une image FITS.

_img_compute_smile: [x1, y1, x2, y2, x3, y3]
Calcul du rayons de courbure et du centre d'un cercle à partir des coordonnées de 3 points sur ce cercle. Cette fonction trouve son utilité pour déterminer le rayon de courbure d'un raie (dont la forme est assimilé à un cercle) de telle manière à corriger cette distorsion et rendre la raie droite (c'est-à-dire dont le rayons de courbure est infini). Le résultat est fourni dans la console de sortie. Exemple :
_imag_compute_smile: [1669, 23, 1666, 414, 1669, 678], avec pour résultat un rayon de courbure de 17200 pixels.

_img_fill: [in1, x1, x2, out]
Met zéro les parties de l'image (in) entre x=1 et x=x1 d'une part, et entre x=x2 et x=largeur maxi. Le résultat est l'image (out).

_img_make_offset: [in, out]
Génère une image (out) dont l'intensité est égale à la moyenne des intensité dans l'image (in).

Atlas - lamp spectra, sky background, solar spectrum



Atlas de raies dans les sources spectrales

Ce document regroupe un ensemble de spectres de sources spectrales, à consulter lorsque vous désirez trouver la longueur d'onde d'une raie particulière à partir d'une des lampes d'étalonnage ou dans un spectre naturel (le spectre solaire par exemple).

Ci-après, spectre de lampes à décharges, par l'auteur :

http://www.astrosurf.com/buil/specinti/Atlas_Spectral_Lamps.pdf

Specinti checklist

Aide-mémoire
specINTI / specINTI Editor V2

Projet Sol'Ex/Star'Ex : http://www.astrosurf.com/solex

Christian Buil, Valérie Desnoux, octobre 2024

1. Objet

Ce document présente **specINTI** et **specINTI Editor** (version V2 et ultérieures). Il ne s'agit pas d'un manuel complet d'usage, mais plutôt d'un aide-mémoire des fonctions principales dans des situations courantes, couvrant les modes de traitement en haute et basse résolution spectrale, ainsi qu'une section dédiée aux spectres d'objets étendus (tels que les nébuleuses). Référez-vous à ce document en cas de doute sur le déroulement des opérations.

Pour commencer, rappelons que **specINTI** est le moteur de calcul principal pour le traitement des spectres, tandis que **specINTI Editor** est une interface graphique qui interagit avec specINTI en fournissant deux fichiers essentiels :

- Un **fichier de configuration**, définissant les paramètres de traitement des spectres ;
- Un **fichier d'observation**, contenant les données spectrales à analyser.

Ces deux fichiers peuvent être édités directement dans specINTI Editor, qui intègre plusieurs outils pour simplifier ce travail, mais aussi pour visualiser le résultat des traitements et la qualité.

Vous pouvez télécharger l'ensemble specINTI/specINTI Editor via ce lien :
http://valerie.desnoux.free.fr/inti/specinti_editor.zip

2. Le traitement de spectres à haute résolution