

# Chapter 5: Preset Menu



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## A. Main Panel






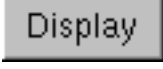
**Changes can only be made by the superuser**





**Ion Optics Parameter set (current)**

**Detector parameter set (current)**



Figure 5-1: The Main Panel of the Preset Menu. In this window the top bar must be blue in order to type in it.

<b>Menu Details: Main Panel of Preset Menu</b>	
	Opens file management panel.
	Saves parameter set
	Same as “save”
	Creates new parameter set.
	Shows parameter files currently used.
	Opens html document with all parameters

	<p>Ion optics settings. Also referred to as either “Global” or as “Primary”. This inputs all values in the file into the keyboard.</p>
	<p>List of ion optics settings</p>
	<p>Detector settings. Also referred to as “Secondary”. This inputs all values in the file into the keyboard.</p>
	<p>List of detector settings.</p>

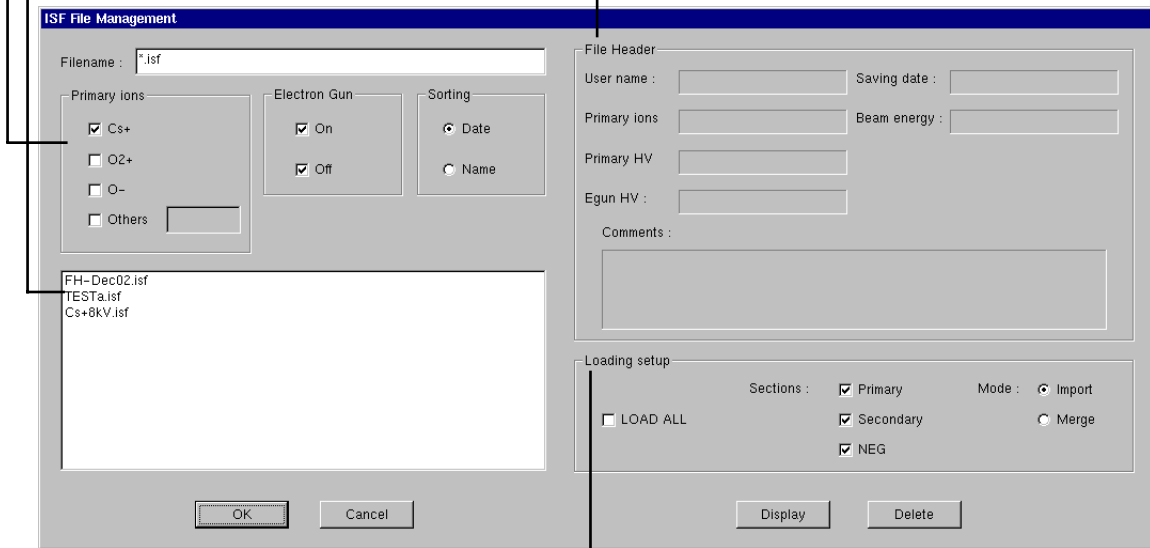
## B. File Management



Search criteria for parameter sets


Information from file header of selected file

Files that were found in search (click to select)



Selection of parameter sub-sets to be loaded

Figure 5-2: File Management Menu of Preset Menu.

<b>Menu Details: File Management</b>	
<b>Sections - Primary</b>	Parameters for ion optics
<b>Sections - Secondary</b>	Parameters for detectors
<b>Sections - NEG</b>	Parameters for electron gun
<b>Mode - Import/Merge</b>	
	Sends html file of parameter sets to web browser.

## C. File Management - Display

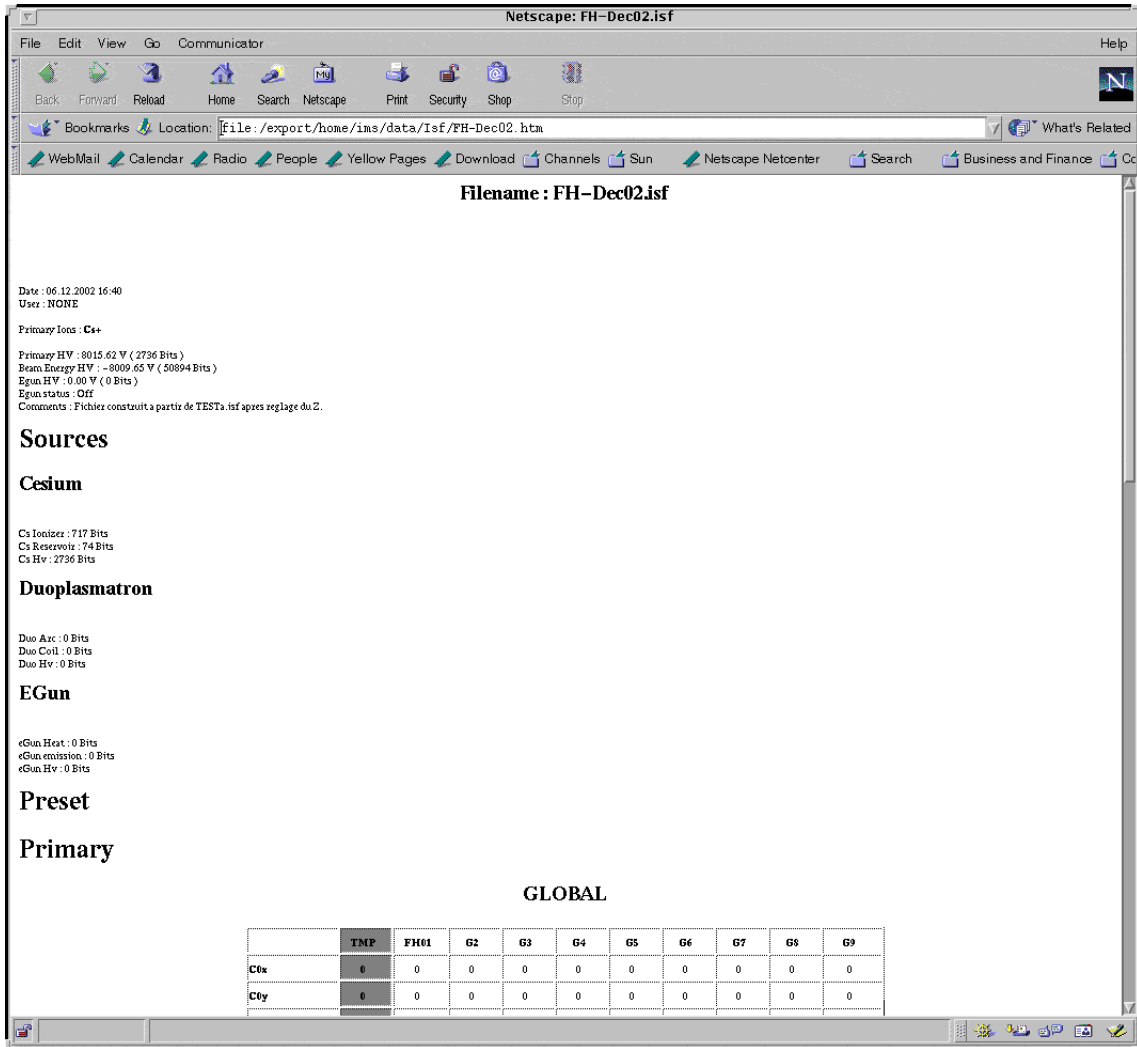


Figure 5-3: Picture of File Management Display Window

<b>Menu Details: Management - Parameter Display</b>	

## D. Ion Optics Parameter Sets

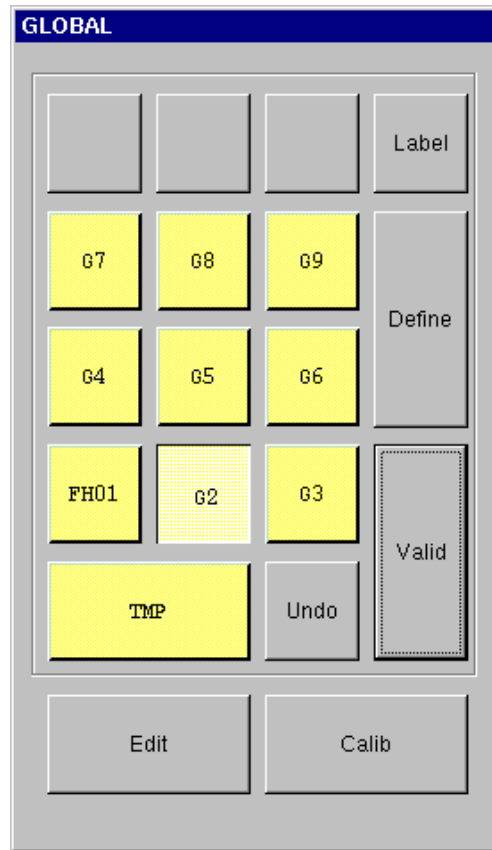


Figure 5-4: Ion Optics Parameter Sets Menu.

<i>Menu Details: Ion Optics Parameter Sets</i>	
<b>Edit</b>	Allows parameter-by-parameter adjustments of a given set.
<b>Calib</b>	For whichever set is selected, clicking this button takes the current machine conditions and puts them into selected files
<b>Valid</b>	Inputs the set on the buttons into the machine.
<b>Define</b>	Allows you to select which lenses/deflectors should be included in a certain set.
<b>Label</b>	Allows you to give the set a name. <b>Note:</b> to complete this operation you must click 'Label' and then click the set you want, even if you already have that set selected.
<b>TMP</b>	

## Edit Submenu

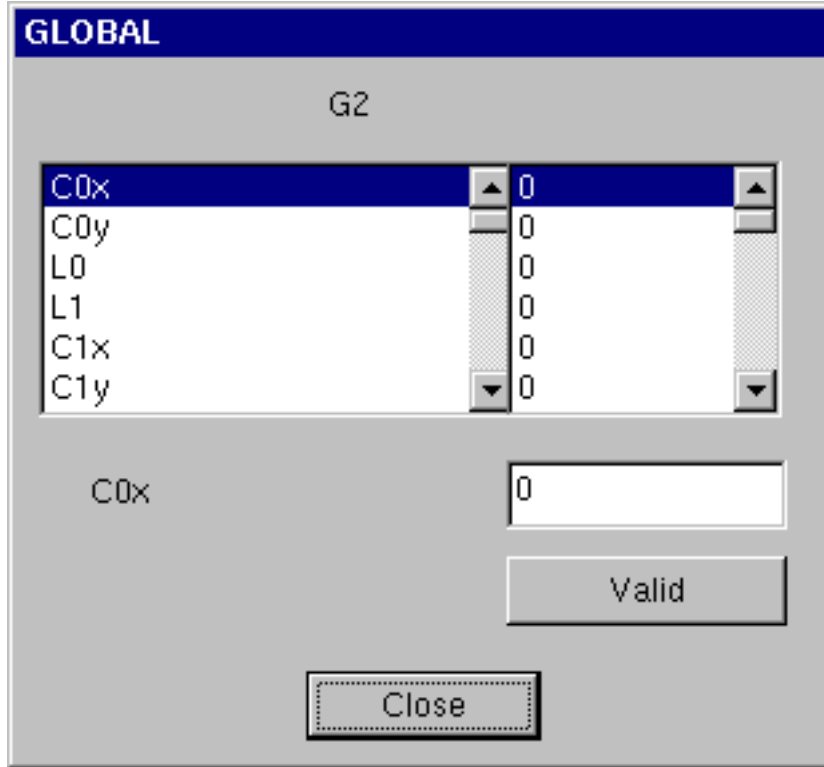


Figure 5-5: Edit Submenu

### ***Menu Details: Ion Optics Parameter Sets - Edit***

#### **Valid**

You input a single value by clicking 'Valid'.

## E. Use of the Preset L1=7000V Toggle Switch for High Spatial Resolution Analysis

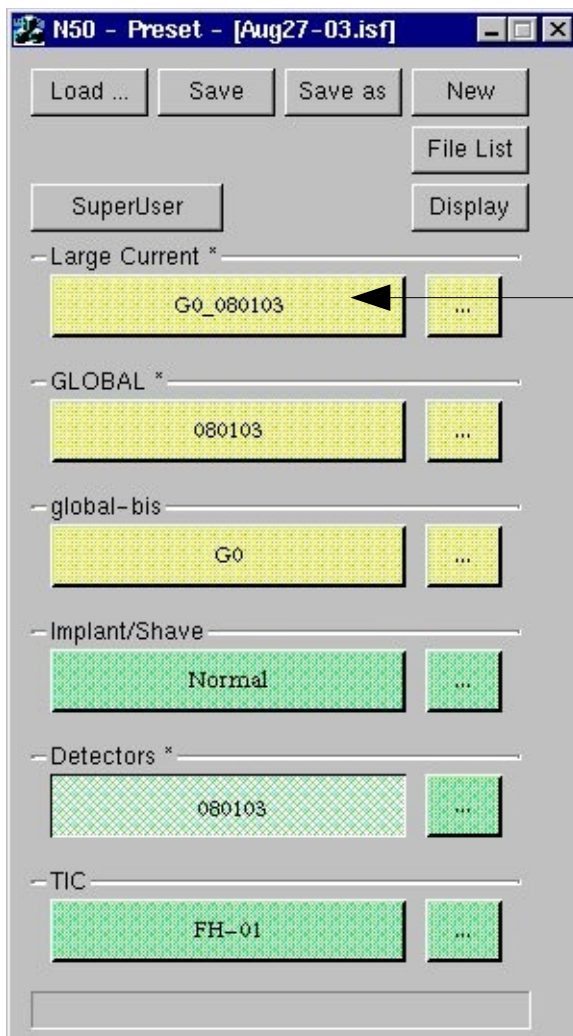
To obtain the highest spatial resolution analysis (or smallest Cs Beam diameter), the voltage on lens L1 needs to be brought from the normal operating value of 0 volts up to a value of 7000 V.

It is not advisable to simply use the thumbwheel to ramp up the L1 voltage as the Cs beam current will go through a maximum around 3000V. Even a brief exposure to this high Cs current can damage a sample, in particular if it is an ultrathin/EM section.

The toggle switch will change the L1 voltage from 0 to 7000V. It will also change the values of  $C_{ox}$ ,  $C_{0y}$ ,  $C_{1x}$ ,  $C_{1y}$  to the optimum values corresponding to L1=7000V.

To use the toggle switch, click on the “Preset” button on the NanoSIMS toolbar on the right of the screen.

When you open the preset menu, a window will open with six rectangular boxes (below). The top box will be titled “Large Current”. If you click on the rectangular box entitled “G0\_080103”, it will change the L1 voltage to 7000V and also the  $C_{ox}$ ,  $C_{0y}$ ,  $C_{1x}$ ,  $C_{1y}$  values. To switch back to the condition where L1 = 0V, simply click on the rectangular box again.



## F. File List

File List



Figure 5-6: Snapshot of File List Window

<b><i>Menu Details: Preset Menu - File List</i></b>
Shows source of parameters for ion optics, detectors and electron gun.