

compCaslGui: A Graphical User Interface for CASL Post-Processing

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1 Data Acquisition

Acquire a CASL data set using the method `cASLRARE2` and a T1 map using `RAREVTR`. On the scanner console generate the T1 map by dragging the `RAREVTR` scan into a viewport in the "Image Display and Processing Window" where you view images. Click on the window and verify that it is highlighted with a thin purple dashed line as indicated in figure 1. Generate the T1 map by clicking on "Processing," then "Image Sequence Analysis" and select "T1 saturation Recovery" (figure 1), then click "OK." Generate the T1 map by selecting "Images," then "Generate Parameter Images" as indicated in figure 1. A window will pop up like the one in figure 1. You should write down the "Proc ID" from that window because you will need to know this proc number later.

2 Use

Enter the `compCasl` directory where the program is installed and launch matlab with the following commands in a terminal.

```
cd compCasl
matlab &
```

In the MATLAB command window shown in figure 2, enter the following exactly as indicated:

```
compCaslGui('init')
```

Note that the single quotes around 'init' are the single quotes on the right side of the keyboard next to the enter/return key.

The `compCASL` GUI window should appear. You may need to resize the window to display all the buttons depending on your configuration. The window should appear as in figure 2.

3 Filling in Scan Information

Click the "Select Output Dir" button and use the window that pops up to navigate to the directory where you want your output data files saved. Click "Select Study Dir" and navigate to the directory that contains the Bruker

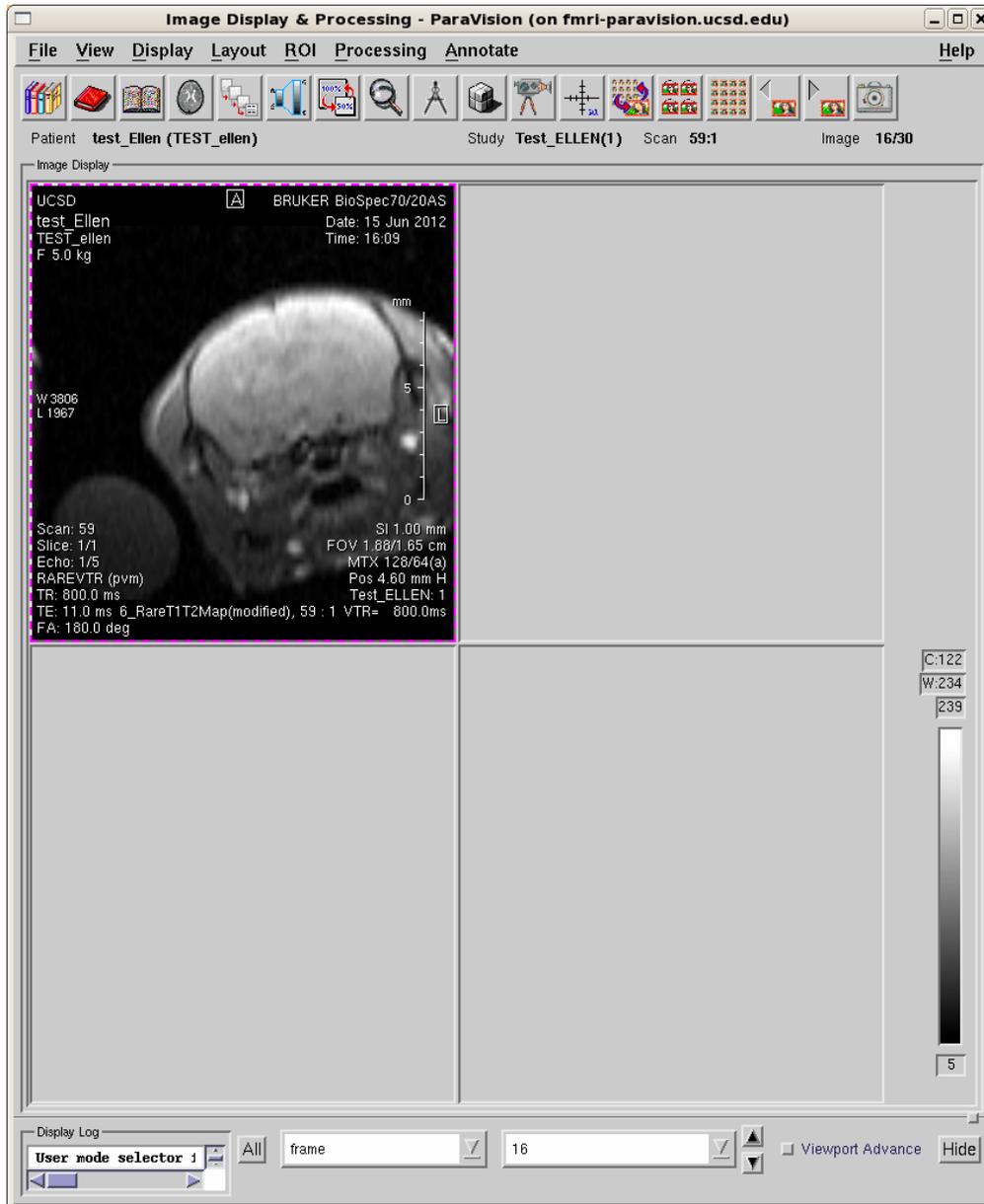


Figure 1: Select the correct viewport.

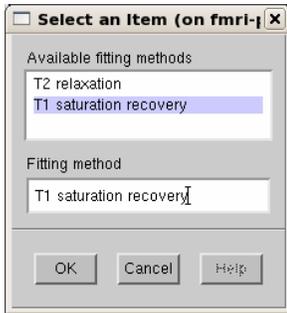


Figure 2: Select T1 saturation recovery to generate the T1 map

data files from your study. This will look something like TEST_ellen.eg1. Within the data file directory (TEST_ellen.eg1 in this example) you should find a series of directories named by the scan number. Use your notes to determine which is the CASL scan and which is the T1 mapping scan. You will need to enter those scan numbers into the spaces indicated in the GUI next to "T1 Map Scan Number" and "CASL Scan Number." The proc number for the CASL scan will be 1 if you collected data in the usual way. The proc number for the T1 scan is the "Proc ID" number from figure 1.

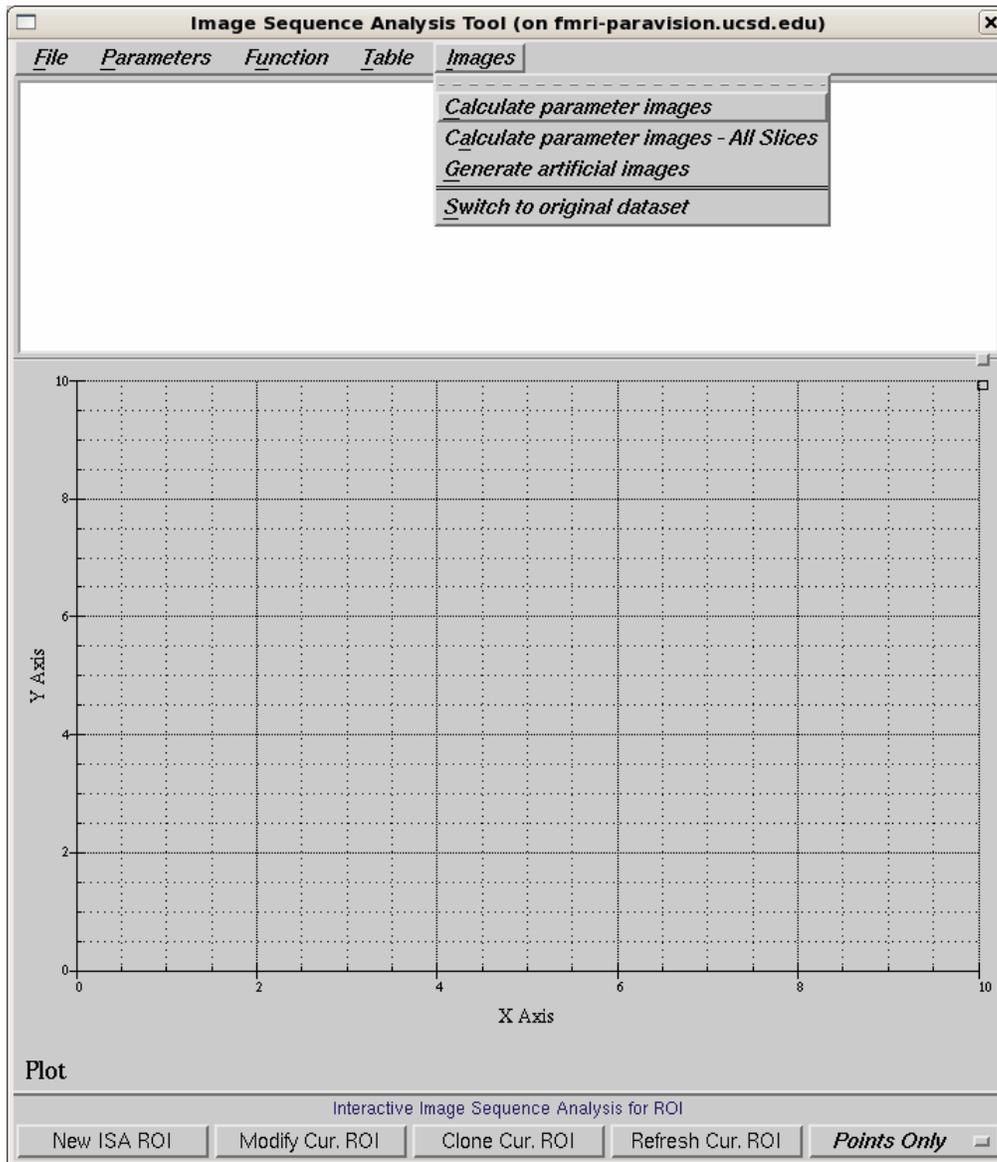


Figure 3: Select "Calculat parameter images," DO NOT USE "...all slices"



Figure 4: Write down the "Proc ID" number. You will use it later.



Figure 5: This is the MATLAB command entry window that should appear. Enter the command indicated and click enter.

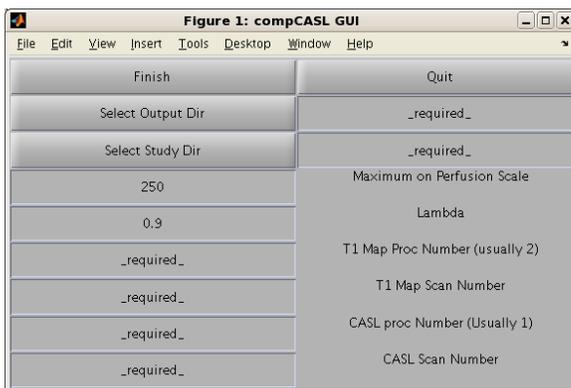


Figure 6: The graphical user interface for computing a measure of CBF.