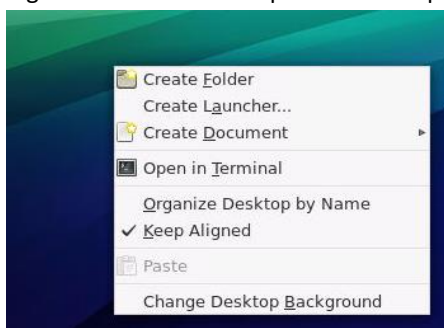


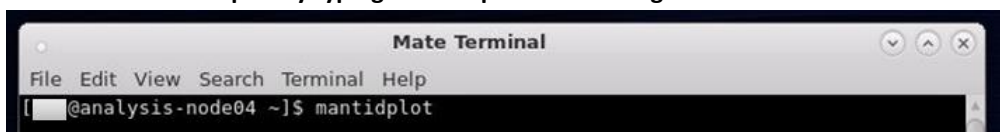
## Data Handling Cheat Sheet for Mantidplot, EQSANS (update 20170118)

### 1. Starting the Terminal application

Right click on the desktop and select 'open in Terminal'



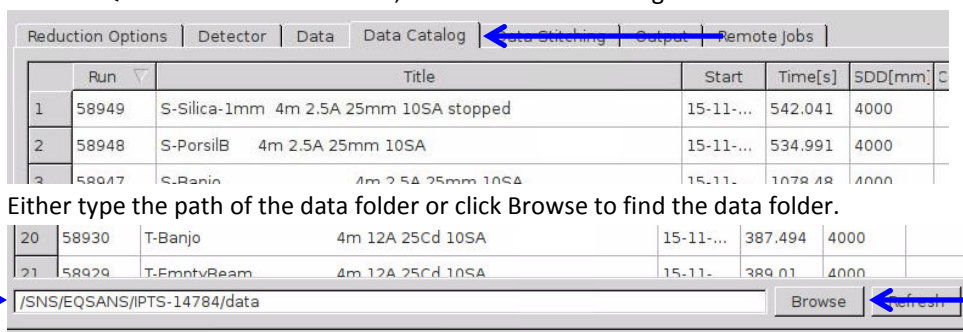
### 2. Run mantidplot by typing "mantidplot" and hitting enter



### 3. Browsing the data catalog

There are two ways:

- 1) For viewing the data catalog remotely, use the reduction website
  - a. Go to [reduction.sns.gov](http://reduction.sns.gov) → login using xcams/ucams id and password → select EQSANS → find the IPTS and click.
- 2) For viewing the catalog when logged into an analysis computer, use MantidPlot
  - a. From the Mantidplot menu, go to Interfaces → SANS → ORNL SANS
  - b. On the EQSANS Reduction Interface, select the 'Data Catalog' tab



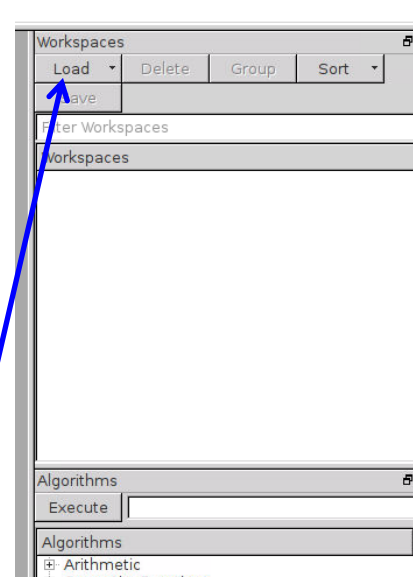
- c. Either type the path of the data folder or click Browse to find the data folder.

The data folder can be found in a consistent location for any experiment, which can either be typed directly in the field or browsed for:

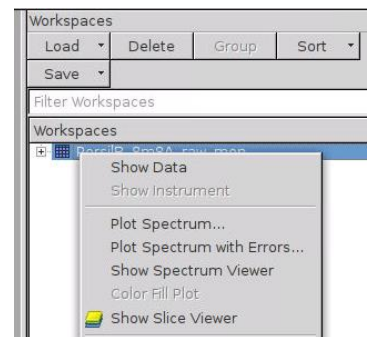
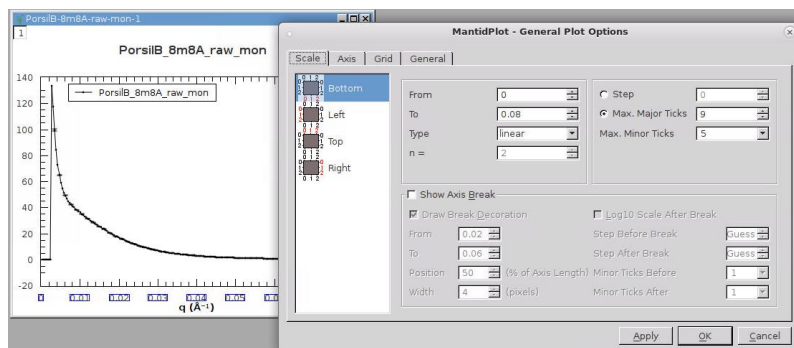
- i. Use the absolute path, which has the format:  
/SNS/EQSANS/IPTS-12345/data
- ii. The table can be sorted by any column by clicking the title of the column. The sorting can either be in ascending or descending order.

### 4. Load and Plot I(q)

- a. If you don't already have I(q) in your workspace (check the right side of the MantidPlot window), load the file using the 'Load' button in the Workspace panel.
- b. Browse to the folder where the reduced data are saved. You can load either txt or xml format. Multiple files can be selected. The data sets will be loaded into a single grouped workspace in MantidPlot. This is particularly useful if MantidPlot crashes.



- c. After loading, you will see the loaded file in the workspace (right). If multiple files have been loaded into a group workspace, the group can be expanded by clicking on the “+” icon to the left of the name.
- d. Right-click the loaded I(q) and select ‘Plot Spectrum with Errors’ (if the data contains errors). Or you can select ‘Plot Spectrum’ if it does not contain errors.
- e. The axis range, scale, types can be changed by double-clicking the axis ticks.

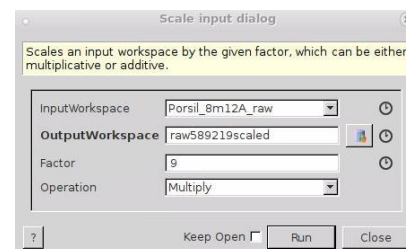


## 5. Plotting multiple I(q)s in one figure.

- a. Load data to workspace
- b. Create a plot if none exist. (see #4)
- c. **Left-click and drag** next data to the existing plot to add data to the plot.

## 6. Shifting plot

- a. You can shift plot by multiplying a constant (log scale plots) or adding a constant (linear scale plots). In the Algorithms panel, type **Scale** and click ‘Execute’
- b. Supply output name and specify factor and operation. Then click Run.
- c. Plot the output data in the existing plot to see the results.



## 7. Subtracting background I(q)

- a. In the Algorithms panel, type **SANSSubtract** and execute.
- b. Supply DataDistribution and Background workspace names. The output workspace will be equal to  $Output = DataDistribution - ScaleFactor * Background + Constant$

## 8. Saving workspace as txt file

- a. In the Algorithms panel, execute **SaveAscii** or **SaveCanSAS1D** to save workspace as a file.

## 9. Setting the plotting preferences

- a. From the main MantidPlot menu, choose “View” and then “Preferences”, to modify how MantidPlot looks and behaves.
- b. To change the appearance of the 2D plots, select the “2D Plots” icon.
- c. The various tabs on the resulting panel allow you to set the default axes (i.e. linear or logarithmic), the style of plots (i.e. line or scatter), the width of curves and the size of symbols.
- d. Other interface appearance setting are available from the Preferences panel. The changes that you make will be saved when MantidPlot executes gracefully, but may not be saved if it crashes.

## 10. Using tar to zip multiple I(q) files as a single file (useful for email attachment)

- a. `> tar -cvf *_Iq.txt ipt_s_12345_Iq.tar`
  - i. Description: Zip all the \*\_Iq.txt files into ‘ipt\_s\_12345\_Iq.tar’ file
  - ii. Use -xvf flag to unzip. Most OS (Mac, Windows) can unzip tar file by default.
- b. Now you can launch web-browser and use email or cloud-storage server for downloading at local machines.
- c. For using ftp software, please refer <http://analysis.sns.gov> website.