

A QUICK GUIDE TO SciDAVis

adapted from Prof Durkin

1. To start the program:

- Double click the SciDAVis icon on the desktop.
- Alternatively *Start* → *SciDAVis* → *SciDAVis*

2. Entering, saving and printing data:

- In SciDAVis X is the independent variable, Y the dependent variable, and yEr is the error in the Y values.
- To rename a column right click on the name and use the *Set Column As* command. This just changes a column from X to Y, etc. To put an actual name on the column, right click and choose *Edit Column Description*.
- To add a new column right click on a column name and click on either *Insert Empty Columns* or *Add Columns*
- Enter the data.
- Right Click on Table head then click “Print Data” in the menu.
- You can add a new table by *File* → *New Table*
- The new table will default to 30 rows. To add more rows, go to *Table* → *Dimensions*, and then enter the number of rows and columns you want.

3. To make a new column which is a function of the other columns:

- Add a new column by right clicking on a column name and click on *Insert Empty Columns*.
- Highlight the new column. In the *Formula* tab window type a formula: eg: $12 * \exp(-\text{col}("1") / \text{col}("2"))$, which produces a new column from columns 1 and 2; then click on *Apply*.

4. To plot the data:

- Highlight the data X, Y, and/or yEr you want to plot (by clicking the X column, holding the Ctrl key, then clicking the Y column). Then click *Plot* → *Scatter*
- Clicking on the axis, curves, axis titles, or data points allows you to customize your graph.

5. To histogram (2 ways):

- 1) Enter a single column of numbers, highlight them, then *Plot* → *Statistical Graph* → *Histogram*. Right click on the graph and choose “Properties” to bring up dialog. Click on *Table1:dummy(X),I(Y)* for binning. Uncheck the box *Automatic Binning* to choose your own binning and type in the numbers you desire.
- 2) Enter X and Y columns of numbers, highlight them, then *Plot* → *Verticle Bars*. If you don’t like the binning, change the values as in 1) above.

6. To fit the data:

- Highlight the graph you want to fit. Execute *Analysis* → *Fit Wizard* ... In *Fit Wizard* click on *User-Defined, Built-in, or Basic*. If using a user-defined function, type in your formula in the large lower box. You can then enter a name for the function, and save it. This is convenient because you won’t have keep typing in the equation. Next, enter the symbols for the various parameters in the box below *Name*. Then click *Fit* >>. A new screen will come up. Enter your initial guesses for the parameters. Also enter the high and low range for x. You may want to increase the number of iterations and/or change the algorithm. In the *Y Error Source* boxes choose *Arbitrary Data Set*, and the table and column corresponding to your errors (sigma). Then click *Fit*. The values for the fit will be displayed in the *Results log*. If you want more information after the fit in *Fit Wizard* click on *Custom Output* >> button and choose the statistical result you want to see.

7. Common problems and solutions

- 1) Sometimes the program interprets data as “text” rather than “numeric”. This seems to be a common bug when importing data from another program such as Excel. When you attempt to plot the data, the graph will look abnormal, and it will also be impossible to fit the curve. To check for this problem, highlight a column and select the “Type” tab. Use the pulldown menu to change from “Text” to “Numeric” if necessary, then click “Apply”.