

Chapter I-1 — Introduction to Igor Pro

Each object has a name so that it can be referenced in an Igor command. You can explicitly set an object's name or accept a default name created by Igor.

Graphs are used to visualize waves and to generate high-quality printouts for presentation. The traces in a graph are representations of waves. If you modify a wave, Igor automatically updates graphs. Igor labels the axes of a graph intelligently. Tick marks never run into one another and are always "nice" values no matter how you zoom in or pan around.

In addition to traces representing waveform or XY data, a graph can display an image or a contour plot generated from 2D data.

Tables are used to enter, inspect or modify wave data. A table in Igor is not the same as a spreadsheet in other graphing programs. A column in a table is a *representation* of the contents of a wave. The wave continues to exist even if you remove it from the table or close the table entirely.

Page layouts permit you to arrange multiple graphs and tables as well as pictures and annotations for presentation. If you modify a graph or table, either directly or indirectly by changing the contents of a wave, Igor automatically updates its representation in a layout.

Both graphs and layouts include drawing tools for adding lines, arrows, boxes, polygons and pictures to your presentations.

More Objects

Here are some additional objects that you may encounter:

- Numeric and string variables
- Data folders
- Notebooks
- Control panels
- 3D plots
- Procedures

A numeric variable stores a single number and a string variable stores a text string. Numeric and string variables are used for storing bits of data for Igor procedures.

A data folder can contain waves, numeric variables, string variables and other data folders. Data folders provide a way to keep a set of related data, such as all of the waves from a particular run of an experiment, together and separate from like-named data from other sets.

A notebook is like a text-editor or word-processor document. You can use a notebook to keep a log of results or to produce a report. Notebooks are also handy for viewing Igor technical notes or other text documentation.

A control panel is a window containing buttons, checkboxes and other controls and readouts. A control panel is created by an Igor user to provide a user interface for a set of procedures.

A 3D plot displays three-dimensional data as a surface, a scatter plot, or a path in space.

A procedure is a programmed routine that performs a task by calling Igor's built-in operations and functions and other procedures. Procedures range from very simple to very complex and powerful. You can run procedures written by WaveMetrics or by other Igor users. If you are a programmer or want to learn programming, you can learn to write your own Igor procedures to automate your work.

Igor's Toolbox

Igor's toolbox includes a wide range of built-in routines. You can extend it with user-defined procedures written in Igor itself and with separately-compiled Igor extensions (plug-ins) that you obtain from WaveMetrics, from a colleague, from a third-party, or write yourself.