Simple plots

S-curves, inverse S-curves and histograms are all referred to as "simple plots". Such plots are produced using data from a single data node. On a color monitor, the plots will be drawn with the same color as the corresponding data node.

DynRisk allows you to produce any combination of the three simple plot types in the same diagram.

Moreover, you can copy curves from one plot window and paste it into another using the "Copy" and "Paste" commands. If you do this, make sure that both plots have the same scale by using the "Set scale" command. You can also choose different colors on the different data nodes making it possible to distinguish between their respective curves.

Note also that you can add "gridlines" to the plots corresponding to certain key statistics for the data node. Specifically, you can have gridlines indicating the location of the following statistics:

• Base value

• Mean ± st.dev.

• Fractiles

The fractiles are chosen according to the currently selected fractile set. You can change this using the "Fractiles…" command.

To display the gridlines, click anywhere in the plot window while pressing the "Command" key on the keyboard. This will bring up a popup menu from which you could select the desired statistics. To hide the gridlines, just repeat the same procedure.

S-curve

An "S-curve" is a graph with the cumulative observed frequency along the Y-axis as a function of the output values along the X-axis. That is, for a given value on the X-axis, the corresponding value on the Y-axis is equal to the observed frequency of output values less than or equal to the chosen value on the X-axis. The S-curve is an estimate of the cumulative probability distribution function of the output value.

If the frontmost window is a main document window for a simulation data file, the "S-curve" button produces S-curve plots for all selected data nodes.

If the frontmost window is a "simple plot" window created by using the "S-curve" button, this button is disabled. In this case the window title is of the form:

`<node>.s`

where <node> is the name of the node whose S-curve is plotted.

If the frontmost window is a "simple plot" window created by using either the "Inverse S-curve" button or the "Histogram" button, the "S-curve" button is used to either hide or show an "S-curve" depending on the state of the window. If the plot already contains an S-curve, you can use the "S-curve" button to hide this curve. On the other hand, if the plot does not contain an S-curve, then you can use the "S-curve" button to show it.

Inverse S-curve

An "Inverse S-curve" is a graph with 1 minus the cumulative observed frequency along the Y-axis as a function of the output values along the X-axis. That is, for a given value on the X-axis, the corresponding value on the Y-axis is equal to the observed frequency of output values greater than the chosen value on the X-axis.

If the frontmost window is a main document window for a simulation data file, the "Inverse S-curve" button produces inverse S-curve plots for all selected data nodes.

If the frontmost window is a "simple plot" window created by using the "Inverse S-curve" button, this button is disabled. In this case the window title is of the form

`<node>.inv`

where <node> is the name of the node whose inverse S-curve is plotted.

If the frontmost window is a "simple plot" window created by using either the "S-curve" button or the "Histogram" button, the "Inverse S-curve" button is used to either hide or show an "inverse S-curve" depending on the state of the window. If the plot already contains an inverse S-curve, you can use the "Inverse S-curve" button to hide this curve. Conversely, if the plot does not contain an inverse S-curve, then you can use the "Inverse S-curve" button to show it.

Histogram

A "Histogram" is a graph where the X-axis is divided into a suitable number of equally sized intervals. (DynRisk uses 20 such intervals.) For each of these intervals the corresponding frequency of observed output values is calculated. The derived frequencies are displayed as a "Column chart" with one column for each interval on the X-axis. The height of a column represent the observed frequency in the corresponding interval. The Histogram is an estimate of the probability density function of the output value.

If the frontmost window is a main document window for a simulation data file, the "Histogram" button produces histogram plots for all selected data nodes.

If the frontmost window is a "simple plot" window created by using the "Histogram" button, this button is disabled. In this case the window title is of the form:

`<node>.h`

where <node> is the name of the node whose histogram is plotted.

If the frontmost window is a "simple plot" window created by using either the "S-curve" button or the "Inverse S-curve" button, the "Histogram" button is used to either hide or show a "histogram" depending on the state of the window. If the plot already contains a histogram, you can use the "Histogram" button to hide this curve. Conversely, if the plot does not contain a histogram, then you can use the "Histogram" button to show it.