

Scatter plot

A “Scatter plot” is a graph consisting of a “cloud” of points reflecting the joint distribution of a pair of data nodes. Each point in the cloud represents corresponding values of the two data nodes from a single simulation. So if you make a “Scatter plot” from a simulation data file where each data node contains say 1000 values, then the plot will show a cloud of 1000 points. If the points are spread all over the diagram with no particular structure, this indicates that there is no dependence between the two variables. In particular the correlation between the two data nodes is neglectable. On the other hand if the points are clustered around a straight line, the correlation may be significant. If the points are clustered closely around some nonlinear curve, the correlation may be small. Still there appears to some sort of dependence between the two data nodes.

If the frontmost window is a main document window for a simulation data file, the “Scatter plot” command produces scatter plots for all selected pairs of data nodes. To select a pair of data nodes, select the first one whose values should appear along the X-axis in the “First selection” mode, and the second one whose values should appear along the Y-axis in the “Second selection” mode.

If the frontmost window is an “XY-plot” window created by using the “Scatter plot” command, this menu item is disabled. In this case the window title is of the form:

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<node1>(x) <node2>(y).scat
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where <node1> is the name of the node whose values appear along the X-axis and <node2> is the name of the node whose values appear along the Y-axis.

If the frontmost window is an “XY-plot” window created by using either the “Regression line” command or the “Curve fit” command, this menu item is changed to either “Hide Scatter plot” or “Show Scatter plot” depending on the state of the window. If the plot already contains a scatter plot, you can use the “Hide Scatter plot” command to hide this scatter. On the other hand, if the plot does not contain a scatter plot, then you can use the “Show Scatter plot” command to show it.