

## Curve fit

A “Curve fit” is a graph that attempts to describe the functional relation between two data nodes. To see how well this curve describes the “real” relation between the data nodes, you can view the curve fit in the same diagram as a scatter plot. If the points are clustered closely around the curve fit, there is a strong functional relation between the two data nodes. You can also compare the curve fit to a regression line. If there is a strong linear relation between the data nodes, then the regression line and the curve fit will be similar. In such cases, you do not gain much by using a more flexible (and thus also more complex) functional relationship as offered by the curve fit.

DynRisk calculates the curve fit by modeling the relation between the two data nodes as a so-called Gaussian process. You can control how this is done by adjusting parameters such as “Resolution”, “Smoothness” and “Sensitivity”. To do this you select the node you want to adjust the parameter settings for and then use the “Curve fit settings...” command.

If the foremost window is a main document window for a simulation data file, the “Curve fit” command produces curve fits 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 foremost window is an “XY-plot” window created by using the “Curve fit” command, this menu item is disabled. In this case the window title is of the form:

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<node1>(x) <node2>(y).gf
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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 foremost window is an “XY-plot” window created by using either the “Scatter plot” command or the “Regression line” command, this menu item is changed to either “Hide curve fit” or “Show curve fit” depending on the state of the window. If the plot already contains a curve fit, you can use the “Hide curve fit” command to hide this curve fit. On the other hand, if the plot does not contain a curve fit, then you can use the “Show curve fit” command to show it.