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SIMPACK Tips and Tricks - General Plots

Last year saw the release of the brand new General Plots module. With the SIMPACK release out this autumn this will be extended to include a 3D animation facility to provide a complete 2D and 3D post-processing environment. There are, however, a number of existing features available which you may not be aware of.

COMPARING SIMULATION RESULTS USING REFERENCE CURVES

A particularly important feature when plotting simulation results is to be able to compare results either with measured data or results from another simulation.

A number of different possibilities for comparing simulation results have been available since the very first release. These approaches can be split into two different categories – dependent upon the result file(s) or independent of the result file(s). The reference curve data must be available as a result file when dependent; when independent the curve data is stored directly within the project. Each approach has its advantages.

Dependent reference curves will be automatically updated if the respective result file is updated. The reference result file can also be replaced with another result file. This approach offers a great deal of flexibility in managing your references curves and creating new ones. The result file must, however, always be available to the project. This comparison is best performed using the 'Duplicate Curves' functionality or by simultaneously plotting results from separate result files using the 'Multiple-Curve Plotting' feature.

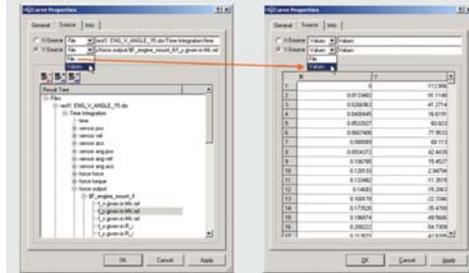
The independent approach is best suited when creating a 'template' of reference curves. If your future simulation results are always to be compared to exactly the same reference values, then this is a very good approach. It has the advantages that a reference result file is not required and the reference isn't dependent upon a result file which could be changed or updated accidentally. The best way to gener-

ate this type of reference Curves is to plot the Curves from a result file and then in the 'Curve Properties' window to switch the Curves' source from 'File' to 'Values'. This removes the dependency and the Curves can be used as a template of reference Curves. This action can of course be performed using 'Multi-Edit' and the Curves can be copied or moved to other Diagrams. Reference Curves can also be generated by directly entering the value pairs. The values can either be entered individually by hand or pasted from an external program, whereby the 'x' and 'y' values must be tab separated. Don't forget if you have curves of significantly differing magnitude in the same Diagram, then you can always add an axis and assign the Curves respectively. For a detailed description of how to perform these actions, you can always consult the SIMPACK documentation via the SIMPACK assistant.

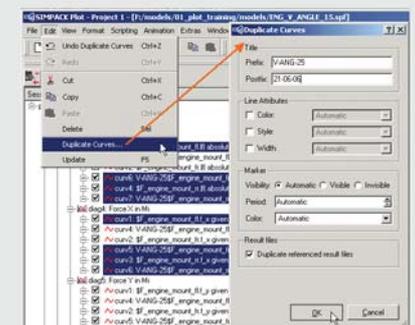
CURVES WITHOUT A REFERENCE

Sometimes Curves can lose their reference to their Output Channels. This can occur, for example, when Modelling Elements are renamed (including Substructure 'Resolve') or the result file is no longer available. All is not lost! The Curves are now set to a 'Detached' state, they still retain their configuration including Filters and are still listed in the Session Tree. However, they cannot be plotted as their Output Channels are no longer available. These detached Curves can, however, be reconnected and will then be displayed with exactly the same configuration. This reconnection can be performed semi-automatically or manually. For more information take a look at the SIMPACK documentation for 'Detached Curves.'

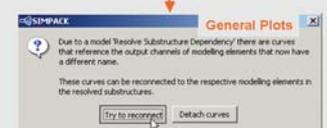
Each new SIMPACK release brings many new features into the post-processing module. You can always see what's new by taking a look at the Release Notes. You can start them from the post-processor by hitting 'F1'.



Model Setup Substructure Resolve with General Plots Reconnect



Switching Curve Source to Values



Duplicating Curves