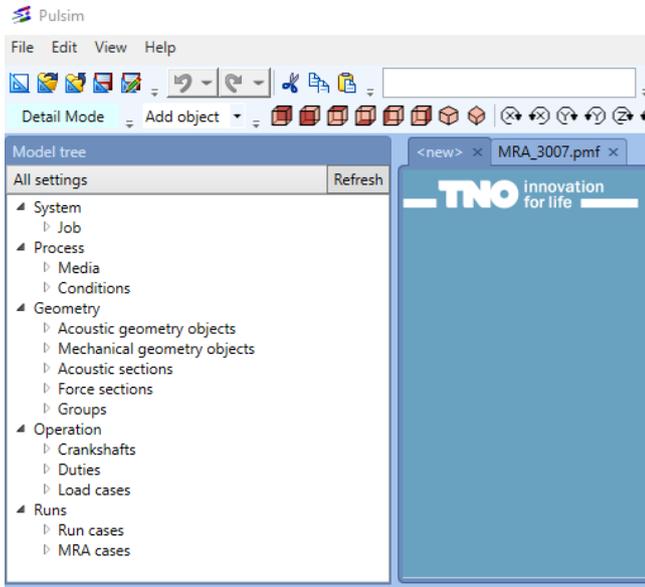# PULSIMSUITE NEWSLETTER

This is the PulsimSuite newsletter of Q4, 2019, presenting version 2.2.5 that was released in October 2019. Please keep on letting us know your good ideas!


Introducing version 2.2.5:

The first new feature of version 2.2.5 is an eyecatcher: a tree view of your model is displayed to the left of the 3D canvas. You can browse through the model information via this tree. When you click an item, the object is selected, highlighted, and "active" in the bottom window, so that you can edit the details of that item.

Not directly visible, yet very useful, is this change: When saving an existing model under a new name, all user-definition files (filter, shaking force definitions, time functions, ANSYS_CUSTOM directory with contents) will also be copied, and match the new model name.
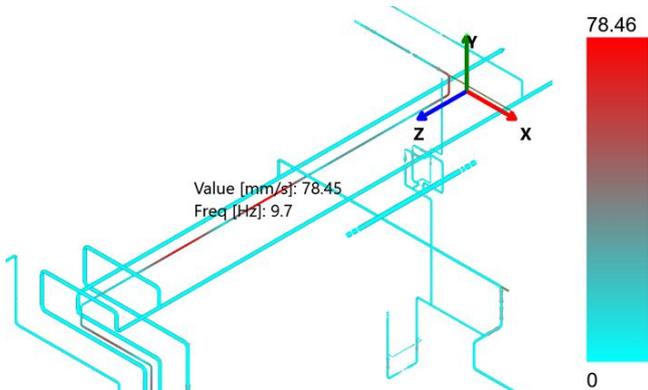
The mechanical response frequency can now be seen directly when clicking on a vibration, stress, etc. result. This saves a step in the analysis work, and thus saves time. For the analysis of mechanical responses, it is vital to know the frequency of a vibration result. This frequency indicates which deformation mode shape is causing the vibration, and where modifications in the supporting are required.
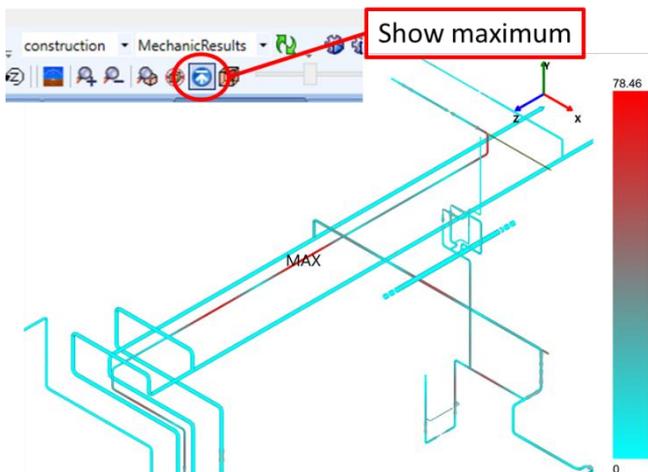

When looking at "maximum values" of any result type, the overall maximum value can now easily be identified by clicking the "show maximum value" button. The 3D canvas will change the focus to the location where the overall maximum is, and the word MAX will be displayed there. If you now click on the result, the maximum value will remain displayed as a pinned value. In case of a mechanical result, the result value and the mechanical frequency are then shown.

The deviations shown in the hovering pop-ups of results values, and in the results deviation slider, are now exactly equal to the simulated deviations. As the pulsim simulation process changes the number of simulation time steps to change RPM or VOS, the deviations are not an exact equidistant sequence. The actually simulated deviations are now saved to a file and, from there, displayed by the GUI.
Also, the initrun deviation result will now display the actually simulated deviation of 0% (for a VOS deviation sweep) or the nominal RPM value of the crankshaft (for an RPM deviation sweep).

(F1, A1, Ph1)+(F2, A2, Ph2)+(F3, A3, Ph3)= signal
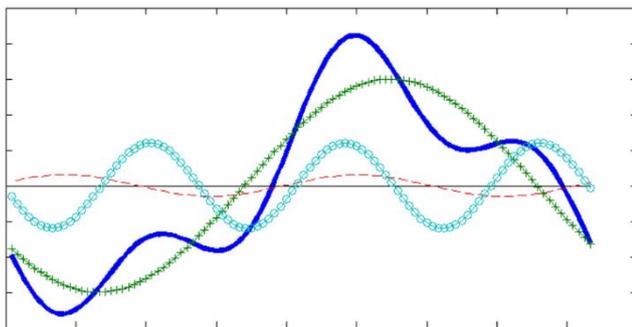
Apart from the already existing options to specify sine, block, or ramp shaped signals for QT (flow signal) or PT (pressure signal) nodes, you can now also specify fully user-defined signals for these nodes. This can be done by specifying specific frequency component amplitudes and phases, or by specifying a series of discrete values during one crankshaft rotation (i.e. a user-specified function of time)

previous

PS 2.2.5
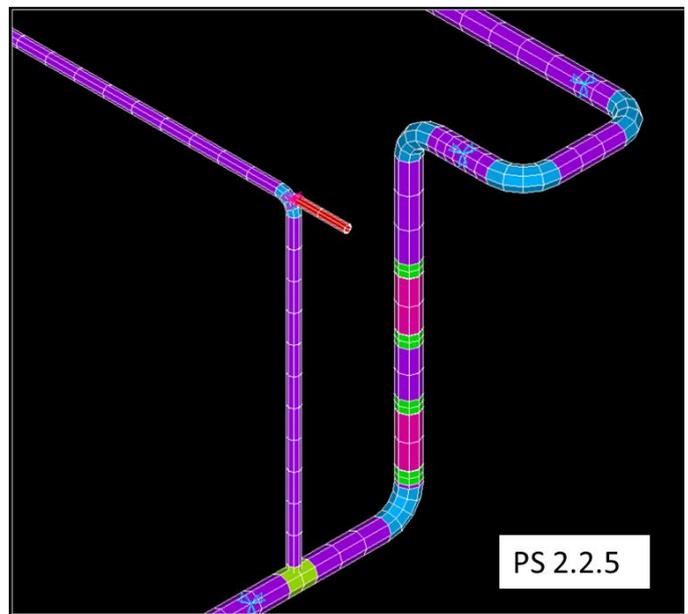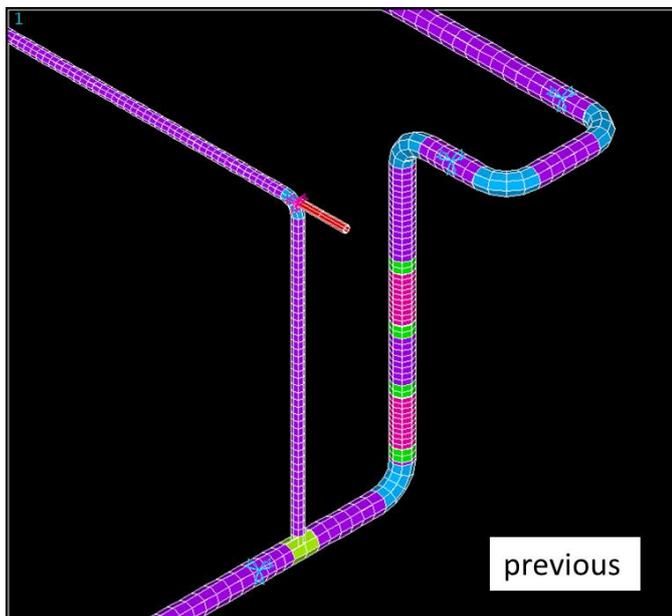
Several hiccups in the visualization of results, refreshing, cancelling, etc., have been resolved. Additionally, results that are not uniformly distributed over each pipe can now also be visualized. Thanks to this, the mechanical response results are now non-uniformly distributed, see the example picture above.
This has the advantage that the meshing into finite elements is now optimized in the mechanical model: the MeshSize property of beams and pipes is now determining the meshing, leading to typically at least 50% less finite elements in the model, and thus to <u>faster calculations</u> and 50% less results values, which significantly <u>saves you disk space</u>.
The user is now really in control of (and responsible for) adequate meshing of the mechanical model.

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