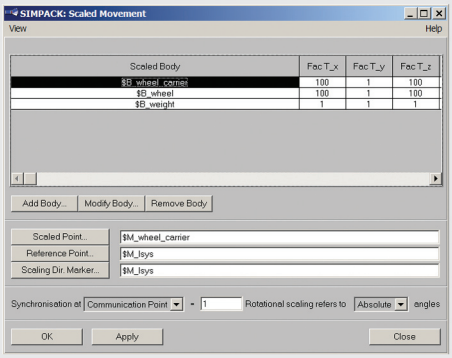
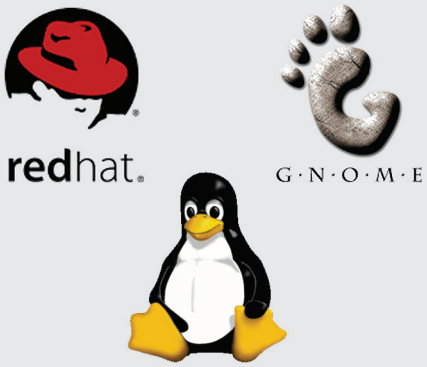
LATEST NEWS

Gerhard Hippmann with his doctorate hat



New SIMPACK Feature: Scaled Transient Animtaion



SIMPACK goes LINUX

DR. GERHARD HIPPMANN

Dr. Gerhard Hippmann is the proud owner of a doctorate hat, that has been tailor-made for him. The hat shows the work that Gerhard undertook for his doctorate and on its top is a cushioned mattress into which is embedded a puppet - head first. Gerhard developed a polygon contact model for his dissertation, which investigated the complex problem of modelling contact in MBS simulations. The contact model used to calculate the contact forces could also be referred to as a "Mattress Model", which the hat designer, Andreas Heckmann, represented perfectly. Not to be forgotten, there is also a mini replica of Gerhard's electric guitar attached to the hat. The guitar was made by Gerhard himself, which, said by Gerhard himself, he plays with vigour in the hard rock band Pressuck. A car is the 'second Body', which is to be found in his dissertation. The car, which is also attached to the hat, is definitely something which one would not associate with Gerhard. The animations of the car running over the dummy were so spectacular, that the examiners, under the leadership of Professor Lugner, had no other choice but to congratulate him on completing his doctorate.

TWO NEW TIME EXCITATIONS

Time Excitation 14: Constant value
This Excitation allows a constant value to be defined for either the position, velocity or acceleration. The respective derivatives and/or integrals are calculated automatically.
Time Excitation 15: u, ud or udd by Input Fct
This Time Excitation reads-in an Input Function for the definition of either position, velocity or acceleration. The Input Function is read-in with linear interpolation in-between the value pairs. The transition between the linear sections are then smoothed using circular arcs. The smoothing arcs are user defined, with these transitions defined by radii or through smoothing parameters. The respective derivatives and/or integrals are also automatically calculated. The most important application for these Time Excitations are when entering velocity profiles with linear velocity increases and constant derivatives, e.g. acceleration of engine velocity and vehicle velocity profiles.

SCALED TRANSIENT ANIMATION

SIMPACK 8.7 introduced a new post-processing feature - the scaled transient animation. This feature enables the user to scale the motion of individual bodies, relative to other bodies, during an animation. The motion of bodies can be scaled for each translational and rotational component separately.
Any marker can be used as the scaling reference co-ordinate system for defining the scaling directions.
Typical applications are for the visualisation of high frequency small amplitude motions and small relative motions between parts with large global displacements; this is often the case for oscillations of a car engine relative to the car body whilst the car is driving along the road.

SIMPACK GOES LINUX

From version 8.7, SIMPACK is now available for Linux systems. The SIMPACK solver, the graphical user interface and the graphical post-processing are available for Red Hat Linux. The currently supported operating system is the Red Hat version 8 in the 32 bit edition, in conjunction with the GNOME desktop environment. For SIMPACK user routines the INTEL FORTRAN Compiler for Linux version 8 is required.

ORDER ANALYSIS

An Order Analysis is now available as a new filter within the SIMPACK Post-Processing General Plots. This filter is used to analyse vibrations in vehicle power trains with the crankshaft or drive shaft rotational velocity and an analysed signal used as the input signal. The output from the filter is the order of the response signal for the selected crankshaft or drive shaft. Measured signals can also be analysed and therefore be used for the validation of MBS models.