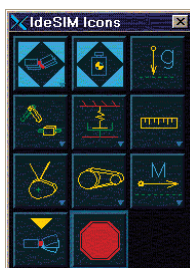


IdeSIM available now

The SIMPACK family of CAD interfaces has a new member, IdeSIM, the interface between I-deas and SIMPACK. IdeSIM is completely integrated into the I-deas Graphic User Interface (GUI) and enables the user to create and export SIMPACK models without having to leave the I-deas environment. Therefore it is possible to choose from a variety of SIMPACK modelling elements and automatically extract mass properties, coordinate systems and geometry of an I-deas assembly. With the exported IdeSIM models, the full range of SIMPACK's solver power, interface technology and post processing functionality is available. IdeSIM ensures consistent data storage in the CAD model, which means that it is even possible to open the exported model within SIMPACK without losing the dependencies defined in IdeSIM. The integrated interface ideally supports the concurrent engineering approach in product design, by enabling the design and simulation engineers to easily share their model data between I-deas and SIMPACK. With the use of IdeSIM, the time to generate a SIMPACK simulation model is drastically reduced, when compared to the conventional method of transferring only the geometrical data from a CAD to a MBS package.



Updates for Wheel/Rail

New plot features for the analysis of the geometrical contact conditions are now available with SIMPACK Wheel/Rail. The new window includes a collection of the most important and often used modelling parameters and charts, for instance, the location of the corresponding contact points on the wheel and rail profiles are shown together with a description of typical contact parameters. With the release of SIMPACK 8, Patch 6, the Wheel/Rail module can now simulate completely elastic wheelsets and wheels. The shaft as well as the wheel disk can be imported by FEMBS from the FEA-tool.

Patch 6 for SIMPACK 8

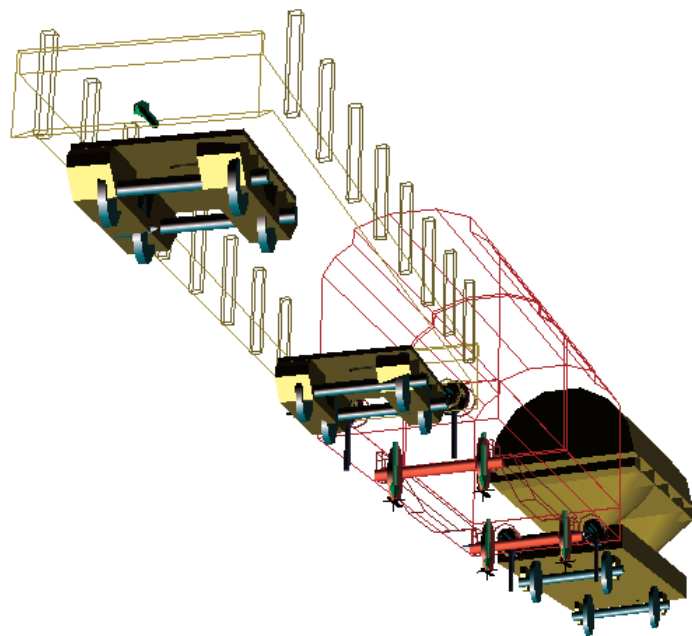
The new program update includes more than forty user requests, plus a number of new features which include new plots, screen shots and movie generation as well as a new air spring force element.

Collaboration with ERRI

DLR, the European Rail Research Institute ERRI and INTEC have signed an agreement to mutually market and maintain an extensive library of freight car models to be used with SIMPACK Wheel/Rail. The library has been developed by DLR and ERRI in close collaboration with the UIC-members DB AG, NS and SNCF. These libraries have been validated extensively. The available vehicles will be:

- the two axle freight train wagons Hbbins, KLS442 and Lgjs578 and Tdgs930
- the flat wagon RS675 with Y25 bogies
- the flat wagon RS680 with the bogies BA931, RS BA88
- the flat wagon RS686 with BA 65 bogies
- the container wagon Sgns with B626(Y25) bogies
- the container wagon Sgngs694 with B626(Talbot) bogies

The models are organised as standard substructures. A detailed description will follow in the next SIMPACK news.



Train Ensemble Three Wagon from the New ERRI Database

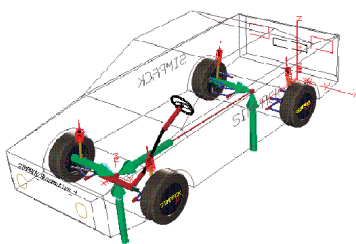


Aerodynamics in Automotive⁺

SIMPACK Automotive⁺ is now available with elements which can model aerodynamic forces. Air resistance is defined as three forces (longitudinal, lateral, vertical) and three torques (roll, pitch, yaw) which act on a vehicle chassis.

The air resistance Force Elements apply the resistance forces and torques as functions of air resistance coefficients. These coefficients are defined by the Input Function against the side-slip angle. Additionally a simple longitudinal force, air resistance model with a constant air resistance coefficient is offered.

The complete set of elements needed to take into account air resistance are found within a SIMPACK Substructure. This substructure applies air resistance forces and torques on the vehicle chassis and provides the graphical representation in terms of scaled arrows with user defined scale factors. The forces are split between the front and rear axles so that they

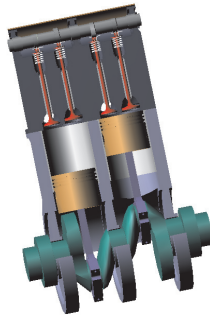


replace the effects of air resistance torques.

The aerodynamic forces have been integrated in collaboration with BMW Technik GmbH.

SIMPACK Engine

INTEC is working on the development of a new SIMPACK Plug-In



for the simulation of engines and engine components.

The Plug-In will have the following features: multi-cylinder engine models, a flexible lump valve spring model, taking into account the contact of windings, a cam contact model, a chain and belt model, different engine bearing models and parameterised drive train models.

New BEAM in Development

The successor of the SIMPACK pre-processor BEAM will be available in spring 2001. Major enhancements will be a new graphical user interface, integrated in SIMPACK and of special note the extension to three dimensional frameworks. This lifts BEAM to the level of a simple, beam element based FEA tool. Presently BEAM creates a SID-file for the description of the flexible body in SIMPACK, which includes geometrical non-linearity and load stiffening effects. Possible application examples include space frames, stabiliser bars (modelled as one body in SIMPACK) and as modelled previously shafts and rotor blades.

ProSIM on ProUser2000

The well-known SIMPACK Pro/Engineer interface ProSIM was presented at this year's Pro/Engineer Users Conference in Florida.

ProSIM provides the full SIMPACK modelling power under the user interface of Pro/Engineer (including flexible bodies) and is able to export complete models to SIMPACK, affirming SIMPACK as a high-end simulation tool.

With SIMPACK as the "missing link", the export of CAD data to CACE systems such as MATRIXx SystemBuilt and MATLAB/Simulink is possible, guaranteeing a continuous and integrated design process.

A similar interface is also available for Catia and I-deas.

Co-operation with Politecnico

Since the beginning of July 2000, INTEC has been collaborating, in the field of railway system dynamics, with the Italian University Politecnico di Torino, Faculta di Ingeneria from Prof. Antonio Gugliotta. The first joint project will be the international research project Mechatronic Train.

Workshop: SIMPACK Real-time

To increase SIMPACK's functionality in the real-time simulation domain, major enhancements of the SIMPACK Symbolic Code are to be brought about. A workshop on this field will be arranged to learn more about customers' wishes and demands. Please contact INTEC for details.

