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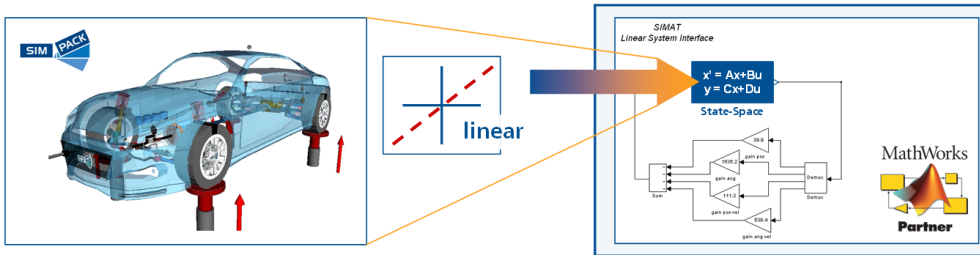
SIMPACK with Simulink®

Interfaces

SIMPACK for use with Simulink®

SIMPACK for use with Simulink® Interfaces are add-on modules for combining computer aided control system design (CACSD) with SIMPACK.

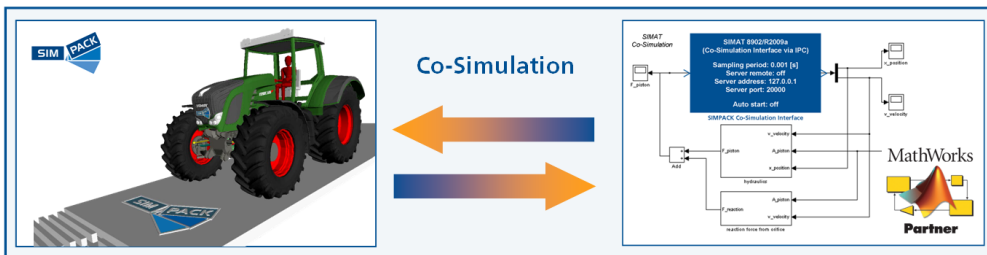
SIMAT — linear model export



Linear State-Space matrices export to Simulink, e.g. for optimising control loops in Simulink.

- Export of linear MBS System matrices as S-Function
- Quick Design of control systems

SIMAT — co-simulation



Co-Simulation of SIMPACK and Simulink, e.g. for coupling hydraulics to MBS.

- SIMPACK for use with Simulink co-simulation interface (exchange of data at discrete time steps)
- Use of all SIMPACK and Simulink modeling elements within non-linear models
- TCP/IP tool-coupling

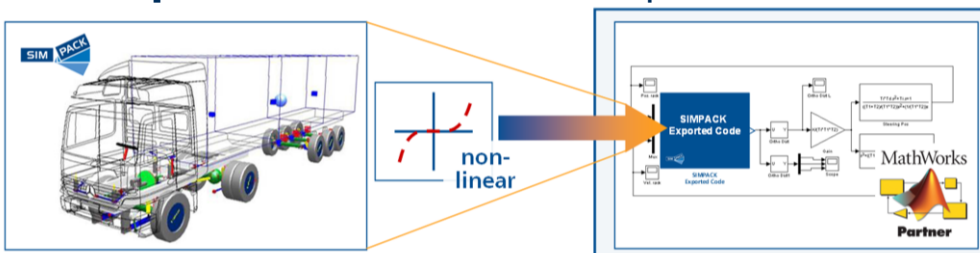
MatSIM



Export of non-linear Simulink model to SIMPACK as control element, e.g. for a wind turbine pitch controller.

- Import of Simulink models as SIMPACK control elements
- Simulink model completely embedded in SIMPACK (as dynamically linked library)
- Variable-step size SIMPACK solver
- Analysis in time- & frequency domain

Code Export — non-linear model export



Export of non-linear SIMPACK model to Simulink as S-Function, e.g. for HiL-/SiL-applications.

- Exporting SIMPACK model as Simulink S-function
- Complete non-linear MBS model export
- Parameterization, SIMPACK solver export (optional)
- Analysis in time- & frequency domain
- HiL-/SiL-applications

What is SIMPACK?

SIMPACK is a general-purpose multi-body simulation (MBS) software tool which is used to aid the development of any mechanical or mechatronic device, ranging from single components through to complete systems (e.g. wind turbines, vehicles, and high performance Formula 1 engines). All SIMPACK products are 100% compatible.

Applications:

- Combining control with MBS dynamics
- Any kind of mechatronic application
- Full integration of MBS into control environment
- Full integration of CACSD into high-end MBS environment
- Hardware/Software-in-the-Loop
- Linear and non-linear analyses in time- and frequency domain

Highlights:

- Detailed mechatronic systems
- Multiple Interfaces available (choice dependent upon simulation requirements)
- Easy to use for SIMPACK and/or Simulink users
- SIMPACK Solver use with exported Simulink models (MatSIM)
- Code Export for use on real-time environments
- Full parameterization of exported SIMPACK models (Code Export)

Operating systems:

- Windows and Linux.
- See: www.SIMPACK.com/platforms.html

MathWorks



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