



Hauptvorträge

Modelica - Modeling and Simulation of Technical Systems

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Abstract: The talk introduces the simulation language Modelica and its concepts for the modeling and simulation of continuous system behavior. The language is competitive to Matlab/Simulink and in addition, supports an object-oriented style of modeling which leads to a high degree of component reuse. System behavior is expressed in an equation oriented style and algebraic and differential equations are directly encoded in the program text based on its modular structure. The talk gives an overview on the language concepts and on the mathematics as the interface to the solvers needed for experimentation, and introduces the advanced concept of structure dynamics . As a nice and novel feature, simulation results can be presented through a sophisticated graphical backend attached to the simulation system. Emphasis is also put on the concept of acausality as a comfortable way to describe problems not only for the simulation of technical systems.

