Call for Papers / Invitation to Special Session SS04

SIMULATION TECHNIQUES FOR MODEL BASED SYSTEM ENGINEERING (MBSE) DEVELOPMENT OF MECHATRONIC SYSTEMS

Special Session Organizers

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The interdisciplinary development of mechatronic systems requires a rethinking of current methods, processes, IT solutions and organizational forms. In particular, the development of machines and industrial systems needs appropriate IT solutions for the functional specification and design, that must also integrate tools for the verification and validation of the system architectures.

Recently, interdisciplinary system modelling methods and tools have been proposed to support the Model Based System Engineering (MBSE) approach to system development. MBSE is a very powerful approach to handle system complexity by using either formal or quasi formal frameworks to describe the system in its life cycle, from specification gathering to detailed design.

Recently, researchers and development engineers are becoming aware about the fact that MBSE must be coupled with efficient simulation methodologies and tools to achieve workable solutions in the industrial environment.

Simulation of system components plays a crucial role in the verification of technological solutions which are conceptually developed in the MBSE, moreover simulation, and possibly the same simulation model, can be effectively used to test the control software at the very early stage of the system development, when, virtually, the physical system is not yet available.

In this way, the simulation techniques can be seen as a tool to integrate the mechanics and control software development and verification. In fact, a physical model for simulation can be used to validate mechanical characteristics as well as control software performances.

This special session aims to present the current state of the art from academy and industry of the integration between simulation, including Hardware in the loop techniques, and MBSE.

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SUBMISSION OF PAPERS

Papers are to be submitted electronically. For further details, please consult the conference web pages.

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AUTHOR’S SCHEDULE

Deadline for submission of papers: March 15, 2013
Notification of papers acceptance: May 15, 2013
Final manuscripts due: July 1, 2013

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