

# Table of Contents

## Quality Assurance

Analyzing the Worst-Case Execution Time by Abstract Interpretation  
of Executable Code

*Christian Ferdinand, Reinhold Heckmann, Reinhard Wilhelm* ..... 1

Quality Assurance and Certification of Software Modules in Safety  
Critical Automotive Electronic Control Units Using a CASE-Tool  
Integration Platform

*Klaus D. Mueller-Glaser, Clemens Reichmann, Markus Kuehl,  
Stefan Benz* ..... 15

## Real-Time Control

On the Fault Hypothesis for a Safety-Critical Real-Time System

*Hermann Kopetz* ..... 31

A Compositional Framework for Real-Time Guarantees

*Insik Shin, Insup Lee* ..... 43

## Services and Components

Validation of Component and Service Federations in Automotive  
Software Applications

*Luciano Baresi, Carlo Ghezzi* ..... 57

Towards a Component Architecture for Hard Real Time Control  
Applications

*Wolfgang Pree, Josef Templ* ..... 74

## Model-Based Development and Tools

Adding Value to Automotive Models

*Eckard Böde, Werner Damm, Jarl Høyem, Bernhard Josko,  
Jürgen Niehaus, Marc Segelken* ..... 86

Automotive Software: A Challenge and Opportunity for Model-Based  
Software Development

*Gabor Karsai* ..... 103

Software for Automotive Systems: Model-Integrated Computing  
    *Sandeep Neema, Gabor Karsai* ..... 116

Simulink Integration of Giotto/TDL  
    *Wolfgang Pree, Gerald Stieglbauer, Josef Templ* ..... 137

**Author Index** ..... 155