AEROSPACE & AUTOMOTIVE SOFTWARE
Edited by K. V. Prasad, M. Broy, and I. Krüger

515 Safety-Driven Design for Software-intensive Aerospace and
Automotive Systems
By M. V. Stringfellow, N. G. Leveson, and B. D. Owens
| INVITED PAPER | A new hazard-analysis technique, that gives system designers
the information they need to make good decisions before their designs are
completed, has been successfully applied to many diverse systems.

526 Seamless Model-Based Development: From Isolated Tools to Integrated
Model Engineering Environments
By M. Broy, M. Fellner, M. Herrmannsdörfer, S. Merenda, and D. Rattu
| INVITED PAPER | Design of embedded software-intensive systems based on
well-developed system models is feasible and desirable; this paper proposes
an approach to overcome the obstacles to achieving this goal.

546 Integration of Collaborative Analyses for Development of Embedded
Control Software
By S. Park, K. G. Shin, and S. Wung
| INVITED PAPER | Engineering groups must work closely together to develop
controls that can integrate the software modules, virtual execution platforms
and analyses needed for automation of avionics and automotive system designs.

562 Addressing the Integration Challenge for Avionics and Automotive
Systems—From Components to Rich Services
By C. Farcaș, E. Farcaș, I. H. Krüger, and M. Menarini
| INVITED PAPER | Rich services include capabilities that concern the flow of
business, while messenger-based communications connect these services
to other component systems that provide dependable service with
enhanced quality.

584 Hardware/Software Codesign of Aerospace and Automotive Systems
By A. Abdallah, E. M. Foran, G. Hellestrand, P. Koopman, and M. Wolf
| INVITED PAPER | Software and hardware for these systems must be co-designed
since overall costs depend both on hardware requirements and on the load
placed on the systems by embedded software.

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SPECIAL ISSUE: AEROSPACE & AUTOMOTIVE SOFTWARE

Moving From Federated to Integrated Architectures in Automotive: The Role of Standards, Methods and Tools
By M. Di Natale and A. L. Sangiovanni-Vincentelli
| INVITED PAPER | Automotive electronics systems need to support an increasing number of features and functions. A new integrated architecture paradigm is needed to overcome the proliferation of Electronic Control Units (ECUs) and allow integration of software components on distributed platforms.

Challenges and Solutions for Embedded and Networked Aerospace Software Systems
| INVITED PAPER | Development of real-time component-based systems, model-based system development, and the use of automated code generation, simulation techniques, and desktop test methods are described.