

Table of Contents

Invited Lectures	1
Achieving Europe-wide safety through technical harmonization	3
<i>Ralf Schweinsberg</i>	
“Open Proof” for Railway Safety Software - A Potential Way-Out of Vendor Lock-in Advancing to Standardization, Transparency, and Software Security	5
<i>Klaus-Rüdiger Hase</i>	
Formal Method and its Application on Train Operation Control System of Chinese high-speed Railway	39
<i>Tao Tang</i>	
Towards Open Modular Critical Systems	41
<i>András Pataricza</i>	
1 st Day Sessions	43
Safety and Security in Transportation Process - Not Just Technical Issue	45
<i>Margarita Peltekova</i>	
The Policy of applying RAMS to evaluate Railway Signalling Systems for reliable Transportation.....	55
<i>Kazue Yasuoka, Atsushi Watabe, Tetsunori Hattori, and Masayuki Matsumoto</i>	
Complementarity between Axle Counters and Tracks Circuits.....	65
<i>Marc Antoni</i>	
Effects of a Periodic Maintenance on the Safety Integrity Level of a Control System	77
<i>Karol Rástočný and Juraĵ Ilavský</i>	
Modeling Computer based, microscopic Dispatching Systems	87
<i>Alexander Kuckelberg and Ekkehard Wendler</i>	
A Method of Evaluating Railway Signalling System Based on RAMS Concept	97
<i>Shigeto Hiraguri, Koji Iwata, and Ikuo Watanabe</i>	
Model Checking Interlocking Control Tables	107
<i>Alessio Ferrari, Gianluca Magnani, Daniele Grasso, and Alessandro Fantechi</i>	

Reliability of the IP Network-based Signal Control System and the Integrated Logical Controller	117
<i>Takashi Kunifuji, Yoshinori Saiki, Satoru Masutani, and Masayuki Matsumoto</i>	
Methodology for Assessing Safety Systems Application for a Railway Hot Box Protection System	125
<i>Joffrey Clarhaut, Etienne Lemaire, and El Miloudi El Koursi</i>	
Estimation of Safety Requirements for Wayside Hot Box Detection Systems	135
<i>Sonja-Lara Bepperling and Andreas Schöbel</i>	
Formal Specification and Automated Verification of Safety-Critical Requirements of a Railway Vehicle with Frama-C/Jessie	145
<i>Kerstin Hartig, Jens Gerlach, Juan Soto, and Jürgen Busse</i>	
Simulation and Optimization of the Longitudinal Dynamics of Parallel Hybrid Railway Vehicles	155
<i>Maik Leska, Robert Prabel, Andreas Rauh, and Harald Aschemann</i>	
2 nd Day Sessions	165
Dissemination of the Commission Regulation (EC) No 352/2009/EC on Common Safety Method on Risk Evaluation and Assessment	167
<i>Maria Antova, Dragan Jovicic, and Thierry Breyne</i>	
Designing a semi-quantitative risk graph	175
<i>Birgit Milius</i>	
On the Justification of a Risk Matrix for Technical Systems in European Railways	185
<i>Jens Braband</i>	
Using Guided Simulation to Assess Driver Assistance Systems	195
<i>Martin Fränzle, Tayfun Gezgin, Hardi Hungar, Stefan Puch, and Gerald Sauter</i>	
The DeSCAS Methodology and Lessons Learned on Applying Formal Reasoning to Safety Domain Knowledge	207
<i>Jan Gačnik, Henning Jost, Frank Köster, and Martin Fränzle</i>	
Calibration and Validation of Simulation Models for Investigation of Traffic Assistance Systems	217
<i>Stefan Detering and Lars Schnieder</i>	

Table of Contents	XI
Model-based Integration Framework for Development and Testing Tool-chains	227
<i>B. Polgár, I. Ráth, and I. Majzik</i>	
Automatically Deriving Symbolic Invariants for PLC Programs Written in IL	237
<i>Sebastian Biallas, Jörg Brauer, Stefan Kowalewski, and Bastian Schlich</i>	
Automatic Fault Localization for Programmable Logic Controllers . . .	247
<i>André Sülflow and Rolf Drechsler</i>	
Author Index	257

FORMS/FORMAT 2010

Formal Methods for Automation and Safety in Railway
and Automotive Systems

Schnieder, E.; Tarnai, G. (Eds.)

2011, XI, 257 p., Hardcover

ISBN: 978-3-642-14260-4