Francesco Flammini
(IEEE Computer Society, Italy)

Human errors, as well as deliberate sabotage, pose a considerable danger to passengers riding on the modern railways and have created disastrous consequences. To protect civilians against both intentional and unintentional threats, rail transportation has become increasingly automated.

Railway Safety, Reliability, and Security: Technologies and Systems Engineering provides engineering students and professionals with a collection of state-of-the-art methodological and technological notions to support the development and certification of ‘real-time safety-critical’ railway control systems, as well as the protection of rail transportation infrastructures.

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- Driverless systems
- Innovative Railway Control and Monitoring Systems
- High-Assurance Systems Engineering
- Risk Assessment and Hazard Analysis
- Protocols for Real-Time Distributed Systems
- Human Machine Interaction and Human Factors
- Formal Methods in Software Development
- Computer Dependability

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Wijesekera Duminda (George Mason University, USA)

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The Model-Driven openETCS Paradigm for Secure, Safe and Certifiable Train Control Systems
Peleka Jan (University of Bremen, Germany)
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Chapter 3
Semi-Quantitative Risk Assessment of Technical Systems on European Railways
Braband Jens (Siemens AG, Germany)

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The FoxMo:SA Approach to Qualitative and Quantitative Model-Based Safety Analysis
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Chapter 5
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Meyer zu Hörste Michael (DLR (German Aerospace Center), Institute of Transportation Systems, Germany)

Chapter 6
Fault Injection for On-Board ERTMS/ETCS Safety Assessment
Arriola Almir Villarro (CEIT and Tecnun (University of Navarra), Spain)
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Robinson Neil (RGB Assurance, Australia)
Carrington David (University of Queensland, Australia)
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Benito Alfredo (Politecnico di Torino, Italy)
Di Carlo Stefano (Politecnico di Torino, Italy)
Savino Alessandro (Politecnico di Torino, Italy)

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Cammeo Giulio (AnsaldoBreda, Italy)
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Winter Kirsten (The University of Queensland, Australia)

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Talg Markus (German Aerospace Center, Institute of Transportation Systems, Germany)
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