Abstract State Machines, Alloy, B, TLA, VDM, and Z [5th International Conference, ABZ 2016, Linz, Austria, May 23-27, 2016, Proceedings /

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Monografía

This book constitutes the refereed proceedings of the 5th International Conference on Abstract State Machines, Alloy, B, TLA, VDM, and Z, ABZ 2016, held in Linz, Austria, in May 2016. The 17 full and 15 short papers presented in this volume were carefully reviewed and selected from 61 submissions. They record the latest research developments in state-based formal methods Abstract State Machines, Alloy, B, Circus, Event-B, TLS+, VDM and Z.

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Determinacy of PharOS in TLA+ -- A Rigorous Correctness Proof for Pastry -- Enabling Analysis for B and Event-B -- A Compact Encoding of Sequential ASMs in Event-B -- Proof Assisted Symbolic Model Checking for B and Event-B -- On Component-based Reuse for Event-B -- Using B and ProB for Data Validation Projects -- Generating Event-B Specifications from Algorithm Descriptions -- Formal Proofs of Termination Detection for Local Computations by Refinement-Based Compositions -- How to Select the Suitable Formal Method for an Industrial Application: A Survey -- Unified Syntax for Abstract State Machines -- A Relational Encoding for a Clash-Free Subset of ASMs -- Towards an ASM Thesis for Reflective Sequential Algorithms -- A Model-based Transformation Approach to Reuse and Retarget CASM Specifications -- Modeling a Discrete Wet-Dry Algorithm for Hurricane Storm Surge in Alloy -- The Tinker' for Rodin -- A Graphical Tool for Event Refinement Structures in Event-B -- Rodin Platform Why3 plug-in -- Semi-Automated Design Space Exploration for Formal Modelling -- Handling Continuous Functions in Hybrid Systems Reconfigurations: A Formal Event-B Development -- UC-B: Use Case Modelling with Event-B -- Interactive Model Repair by Synthesis -- SysML2B: Automatic Tool for B Project Graphical Architecture Design using SysML -- Mechanized Refinement of Communication Models with TLA+ -- A Super Industrial Application of PSGraph -- The Hemodialysis Machine Case Study -- How to Assure Correctness and Safety of Medical Software: The Hemodialysis Machine Case Study -- Validating the Requirements and Design of a Hemodialysis Machine Using iUML-B, BMotionStudio, and Co-simulation -- Hemodialysis Machine in Hybrid Event-B -- Modeling a Hemodialysis Machine using Algebraic State-Transition Diagrams and B-like Methods -- Modelling the Haemodialysis Machine with Circus

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