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| Soggetti                | Machine theory<br>Computer science<br>Software engineering<br>Logic programming<br>Algorithms<br>Computer science - Mathematics<br>Formal Languages and Automata Theory<br>Computer Science Logic and Foundations of Programming<br>Software Engineering<br>Logic in AI<br>Design and Analysis of Algorithms<br>Mathematics of Computing   |
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| Livello bibliografico   | Monografia   |
| Nota di bibliografia    | Includes bibliographical references and index.   |
| Nota di contenuto       | Intro -- Preface -- Organization -- Abstracts of Invited Talks -- The Past and Future of Embedded Finite Model Theory -- Post's Correspondence Problem: From Computer Science to Algebra -- Recent Advances on the Reachability Problem for VASSes by Examples -- Decidability Results for Context-Bounded Analysis of Systems -- SAT-Based Invariant Inference and Its Relation to Concept Learning -- Presentation-Only Submissions -- The Pseudo-Reachability Problem |

for Affine Dynamical Systems -- Pairwise Reachability Oracles and Preservers Under Failures -- On the Identity Problem  
for Unitriangular Matrices of Dimension Four -- On the Undecidability of Loop Analysis -- Skolem Meets Schanuel -- Subsequences with Gap Constraints: Complexity Bounds for Matching and Analysis Problems -- A Dynamic Programming Algorithm for a Maximum  $s$ -Clique Set on Trees -- Higher-Order Nonemptiness Step by Step -- A Universal Skolem Set of Positive Lower Density -- On the Computation of the Algebraic Closure of Finitely Generated Groups of Matrices -- Matching Patterns with Variables Under Edit Distance -- The Variance-Penalized Stochastic Shortest Path Problem -- Parameterized Safety Verification of Round-Based Shared-Memory Systems -- Program Specialization as a Tool for Solving Word Equations -- Distributed Controller Synthesis for Deadlock Avoidance -- The Membership Problem for Hypergeometric Sequences with Rational Parameters -- On the Expressive Power of String Constraints -- Weak Bisimulation Finiteness of Pushdown Systems with Deterministic Epsilon-Transitions Is 2-EXPTIME-Complete -- What Can Oracles Teach us About the Ultimate Fate of Life? -- Universal Complexity Bounds Based on Value Iteration and Application to Entropy Games -- Regular Path Queries in MillenniumDB -- On the Skolem Problem for Reversible Sequences -- Contents -- Invited Papers.  
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Separations -- 4 Complexity Classes Defined by Two-Way Head Moves  
-- 4.1 Case of Logarithmic and Polynomial Ceilings -- 4.2 Case of No Ceiling Restriction -- 5 A Discussion and Open Problems -- References  
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#### Sommario/riassunto

This book constitutes the refereed proceedings of the 15th International Conference on Reachability Problems, RP 2022, held in Kaiserslautern, Germany, in October 2022. The 8 full papers presented were carefully reviewed and selected from 14 submissions. In addition, 3 invited papers were included in this volume. The RP proceedings cover topics such as reachability for infinite state systems; rewriting systems; reachability analysis in counter/timed/cellular/communicating automata; Petri nets; computational aspects of semigroups, groups, and rings; reachability in dynamical and hybrid systems; frontiers between decidable and undecidable reachability problems; complexity and decidability aspects; predictability in iterative maps; and new computational paradigms.

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