

1. Record Nr.	UNINA9910409661703321
Titolo	Automated Reasoning : 10th International Joint Conference, IJCAR 2020, Paris, France, July 1–4, 2020, Proceedings, Part I // edited by Nicolas Peltier, Viorica Sofronie-Stokkermans
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2020
ISBN	3-030-51074-3
Edizione	[1st ed. 2020.]
Descrizione fisica	1 online resource (553 pages)
Collana	Lecture Notes in Artificial Intelligence, , 2945-9141 ; ; 12166
Disciplina	006.3
Soggetti	Machine theory Artificial intelligence Computer science Software engineering Compilers (Computer programs) Computer programming Formal Languages and Automata Theory Artificial Intelligence Computer Science Logic and Foundations of Programming Software Engineering Compilers and Interpreters Programming Techniques
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Invited Paper -- Efficient Automated Reasoning about Sets and Multisets with Cardinality Constraints -- SAT; SMT and QBF -- An SMT Theory of Fixed-Point Arithmetic -- Covered Clauses Are Not Propagation Redundant -- The Resolution of Keller's Conjecture -- How QBF Expansion Makes Strategy Extraction Hard -- Removing Algebraic Data Types from Constrained Horn Clauses Using Difference Predicates -- Solving bit-vectors with MCSAT: explanations from bits and pieces -- Monadic Decomposition in Integer Linear Arithmetic -- Scalable Algorithms for Abduction via Enumerative Syntax-Guided

Synthesis -- Decision Procedures and Combination of Theories --  
Deciding the Word Problem for Ground Identities with Commutative and  
Extensional Symbols -- Combined Covers and Beth Definability --  
Deciding Simple Infinity Axiom Sets with one Binary Relation by Means  
of Superpostulates -- A Decision Procedure for String to Code Point  
Conversion -- Politeness for The Theory of Algebraic Datatypes --  
Superposition -- A Knuth-Bendix-Like Ordering for Orienting  
Combinator Equations -- A Combinator-Based Superposition Calculus  
for Higher-Order Logic -- Subsumption Demodulation in First-Order  
Theorem Proving -- A Comprehensive Framework for Saturation  
Theorem Proving -- Proof Procedures -- Possible Models Computation  
and Revision - A Practical Approach -- SGGGS Decision Procedures --  
Integrating Induction and Coinduction via Closure Operators and Proof  
Cycles -- Logic-Independent Proof Search in Logical Frameworks (short  
paper) -- Layered Clause Selection for Theory Reasoning (short paper)  
-- Non Classical Logics -- Description Logics with Concrete Domains  
and General Concept Inclusions Revisited -- A Formally Verified,  
Optimized Monitor for Metric First-Order Dynamic Logic --  
Constructive Hybrid Games -- Formalizing a Seligman-Style Tableau  
System for Hybrid Logic (short paper) -- NP Reasoning in the Monotone  
 $\mu$ -Calculus -- Soft subexponentials and multiplexing -- Mechanised  
Modal Model Theory.

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### Sommario/riassunto

This two-volume set LNAI 12166 and 12167 constitutes the refereed proceedings of the 10th International Joint Conference on Automated Reasoning, IJCAR 2020, held in Paris, France, in July 2020.\* In 2020, IJCAR was a merger of the following leading events, namely CADE (International Conference on Automated Deduction), FroCoS (International Symposium on Frontiers of Combining Systems), ITP (International Conference on Interactive Theorem Proving), and TABLEAUX (International Conference on Analytic Tableaux and Related Methods). The 46 full research papers, 5 short papers, and 11 system descriptions presented together with two invited talks were carefully reviewed and selected from 150 submissions. The papers focus on the following topics: Part I: SAT; SMT and QBF; decision procedures and combination of theories; superposition; proof procedures; non classical logics Part II: interactive theorem proving/ HOL; formalizations; verification; reasoning systems and tools \*The conference was held virtually due to the COVID-19 pandemic. Chapter 'Constructive Hybrid Games' is available open access under a Creative Commons Attribution 4.0 International License via [link.springer.com](https://link.springer.com).

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