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Algebra Approach to Relational Systems Using Gröbner Bases -- Fuzzy Relational Images in Computer Science -- A Completeness Theorem for Extended Order Dependencies on Relational Attribute Models in Dedekind Categories -- Double Residuated Lattices and Their Applications -- Interval Bilattices and Some Other Simple Bilattices -- Interactive Systems: From Folklore to Mathematics -- Relational Constructions in Goguen Categories -- A Subintuitionistic Logic and Some of Its Methods -- Implementation of Relational Algebra Using Binary Decision Diagrams -- Calculating a Relational Program for Transitive Reductions of Strongly Connected Graphs -- Calculating Church-Rosser Proofs in Kleene Algebra -- On the Definition and Representation of a Ranking -- Tangent Circle Algebras.

Sommario/riassunto

This volume contains the papers presented at RelMiCS 2001, the 6th Int- national Conference on Relational Methods in Computer Science, and the First Workshop of COST Action 274TARSKI, Theory and Application of Relat- nal Structures as Knowledge Instruments. The conference was held in conference centre Boschoord, Oisterwijk near Tilburg, The Netherlands, from October 16 till October 21, 2001. The conference attracted interest from many parts of the world with contributions from many countries. This conference was a continuation of international conferences/workshops on Relational Methods in Computer Science held in: Schloss Dagstuhl, Germany, January1994; ParatinearRiodeJaneiro,September1995;Hammamet,Tunisia, January1997;theStefanBanachCenter,Warsaw,September1998; andQuebec, Canada, January 2000. The purpose of these conferences/workshops is to bring together researchers from various subdisciplines of Computer Science, Mathematics, and Philosophy, all of whom use relational methods as a conceptual and methodological tool in their work. Topics include, but are not limited to: relational, cylindric, fork, and Kleene algebras; relational proof theory and decidability issues; relational representation theorems; relational semantics; applications to programming, - tabases, andanalysisoflanguage;andcomputersystemsforrelationalknowledge representation. With respect to applications one can think of: relational spe- ?cations and modeling; relational software design and development techniques; programming with relations; and implementing relational algebra.