

# Contents

Introduction .....	vii
<i>B. Amrhein, R. Bündgen, W. Küchlin,</i> Parallel Completion Techniques .....	1
<i>J. Apel</i> , The Computation of Gröbner Bases Using an Alternative Algorithm .....	35
<i>R. Bündgen</i> , Symmetrization Based Completion .....	47
<i>M. Göbel</i> , On the Reduction of $G$ -invariant Polynomials for an Arbitrary Permutation Groups $G$ .....	71
<i>E. Green, T. Mora, V. Ufnarovsky</i> , The Non-Commutative Gröbner Freaks .....	93
<i>B. Keller</i> , Alternatives in Implementing Noncommutative Gröbner Basis Systems .....	105
<i>K. Madlener, B. Reinert</i> , String Rewriting and Gröbner Bases – A General Approach to Monoid and Group Rings .....	127
<i>D. Mall</i> , Gröbner Fans and Projective Schemes .....	183
<i>C. Marché</i> , Normalized Rewriting: A Unified View of Knuth-Bendix Completion and Gröbner Bases Computation .....	195
<i>U. Martin</i> , New Directions for Syntactic Termination Orderings .....	211
<i>M. Pesch</i> , Two-sided Gröbner Bases in Iterated Ore Extensions .....	227
<i>A. Pethö, J. Stein, T. Weis, H. G. Zimmer</i> , Computing the Torsion Group of Elliptic Curves by the Method of Gröbner Bases .....	247
<i>P. Strogova</i> , Finding a Finite Group presentation Using Rewriting .....	269
<i>A. Widiger</i> , Deciding Degree-Four-Identities for Alternative Rings by Rewriting .....	279