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of polynomial systems""; ""1. Introduction""; ""2. Multiplicity. Algebraic geometric point of view""; ""3. Multiplicity. Numerical point of view""; ""4. Multiplicity and homotopy methods""; ""5. Recovering the quadratic convergence""; ""6. Deflating and kerneling""; ""7. Examples""; ""8. Conclusion and future work""; ""References""
""On the intrinsic complexity of elimination problems in effective algebraic geometry""""1. Introduction""; ""2. Concepts and tools from algebraic geometry""; ""3. Robust parameterized arithmetic circuits""; ""4. A family of hard elimination polynomials""; ""5. A computation model with robust parameterized arithmetic circuits""; ""6. Applications to elimination theory""; ""References""; ""Newton iteration, conditioning and zero counting""; ""1. Introduction""; ""Part 1. Newton Iteration and Alpha theory""; ""2. Outline""; ""3. The gamma invariant""; ""4. The -Theorems""
""5. Estimates from data at a point""""Part 2. Inclusion and exclusion""; ""6. Eckart-Young theorem""; ""7. The space of homogeneous polynomial systems""; ""8. The condition number""; ""9. The inclusion theorem""; ""10. The exclusion lemma""; ""Part 3. The algorithm and its complexity""; ""11. Convexity and geometry Lemmas""; ""12. The counting algorithm""; ""13. Complexity""; ""14. Probabilistic and smoothed analysis""; ""15. Conclusions""; ""References""