Renegar, James
On the computational complexity and geometry of the first-order theory of the reals. III: Quantifier elimination. (English) Zbl 0798.68073
J. Symb. Comput. 13, No. 3, 329-352 (1992).

Summary: This series of papers [part I, ibid. 13, No. 3, 255-299 (1992; Zbl 0763.68042); part II, ibid. 13, No. 3, 301-327 (1992; Zbl 0763.68043)] presents a complete development and complexity analysis of a decision method, and a quantifier elimination method, for the first order theory of the reals. The complexity upper bound which are established are the best presently available, and both for sequential and parallel computation, and both for the bit model of computation and the real number model of computation; except for the bounds pertaining to the sequential decision method in the bit model of computation, all bounds represent significant improvements over previously established bounds.

MSC:

68Q25	Analysis of algorithms and problem complexity
14P10	Semialgebraic sets and related spaces
03C10	Quantifier elimination, model completeness, and related topics
03B25	Decidability of theories and sets of sentences

Cited in **2** Reviews
Cited in **78** Documents

Keywords:

complexity analysis; decision method; quantifier elimination; first order theory of the reals; parallel computation; bit model of computation; real number model of computation

Full Text: DOI

References:

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