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**Probabilistic algorithms for geometric elimination.** (English) Zbl 0934.68122  
*Appl. Algebra Eng. Commun. Comput.* 9, No. 6, 463-520 (1999).

Summary: We develop probabilistic algorithms that solve problems of geometric elimination theory using small memory resources. These algorithms are obtained by means of the adaptation of a general transformation due to A. Borodin which converts uniform Boolean circuit depth into sequential (Turing machine) space. The Boolean circuits themselves are developed using techniques based on the computation of a primitive element of a suitable zero-dimensional algebra and diophantine considerations.

Our algorithms improve considerably the space requirements of the elimination algorithms based on rewriting techniques (Gröbner solving), having simultaneously a time performance of the same kind of them.

**MSC:**

**68W05** Nonnumerical algorithms  
**68W30** Symbolic computation and algebraic computation

Cited in **7** Documents

**Keywords:**

probabilistic algorithms; elimination theory; Boolean circuit

**Full Text:** [DOI](#)