MR1071784 (92h:12010)

Fitchas, Noaï (RA-IAM); **Galligo, André** (F-NICE); **Morgenstern, Jacques** (F-NICE)

Algorithmes rapides en sequentiel et en parallèle pour l'élimination des quantificateurs en géométrie élémentaire. (French) [Fast sequential and parallel algorithms for quantifier elimination in elementary geometry]

Séminaire sur les Structures Algébriques Ordonnées, Vol. I, 103–145, *Publ. Math. Univ. Paris VII*, 32, *Univ. Paris VII, Paris*, 1990.

12Y05 (14P10)

From the introduction (translated from the French): "We treat, from the point of view of sequential and parallel complexity, the problem of quantifier elimination in the elementary theory of real closed fields and of algebraically closed fields of arbitrary characteristic. Our main result establishes lower bounds for this problem as well as for the computation of algebraic cylindrical decomposition in the case of real closed fields, not only for sequential but also for parallel complexity. Consequently, the algorithms proposed here for quantifier elimination (and algebraic cylindrical decomposition) are optimal with respect to a general measure of complexity, both sequential and parallel."

{For the entire collection see MR1071775 (91e:12001)}