
MR1230864 (94h:68101)

Lazard, D. (F-PARIS6-C); **Valibouze, A.** (F-PARIS6-C)

Computing subfields: reverse of the primitive element problem. (English summary)

Computational algebraic geometry (*Nice*, 1992), 163–176, *Progr. Math.*, 109, *Birkhäuser Boston*, *Boston*, *MA*, 1993.

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References: 0	Reference Citations: 1	Review Citations: 0

A new algorithm is presented to compute the subextensions of some effectively given algebraic field extension $K \to L$, for arbitrary base field K. Similarly, the algorithm can compute low degree subfields of low degree extensions of L, but in general the Galois group or Galois closure will not be computed. Some examples where K is the field of rational numbers are given. No runtime analysis is given, and it is not clear how the efficiency of the algorithm compares to older algorithms for finding subfields. Such algorithms are useful for the simplification of algebraic numbers.

{For the entire collection see MR1230853 (94b:13001)}

Reviewed by *A. K. Lenstra*