

1014-12-1440 **Shuhong Gao*** (sgao@math.clemson.edu), Department of Mathematical Sciences, Clemson University, Clemson, SC 29634-0975. *Density of primitive elements for field extensions.*

We present an explicit bound on the number of primitive elements that are linear combinations of generators for a field extension. Possible applications include a new bound on the number of rational points of an arbitrary algebraic variety. Based on joint work with Joel Brawley, Antonio Cafure, and Guillermo Matera. (Received September 28, 2005)