

1023-11-447

**Charles L Samuels\*** ([csamuels@math.utexas.edu](mailto:csamuels@math.utexas.edu)), Department of Mathematics, University of Texas at Austin, Austin, TX 78712. *A lower bound on the Weil height in terms of an auxiliary polynomial.*

Recent theorems of Dubickas and Mossinghoff use auxiliary polynomials to give lower bounds on the Weil height of an algebraic number  $\alpha$  under certain assumptions on  $\alpha$ . We produce a theorem which introduces an auxiliary polynomial for giving lower bounds on the height of any algebraic number. We obtain, as corollaries, the above results as well as some new lower bounds in other special cases. We also explain an interesting research problem raised by our theorem. (Received September 13, 2006)