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Shabnam Akhtari and **Jeffrey Vaaler*** (vaaler@math.utexas.edu), PO Box 495, Yachats, OR 97498. *Diophantine inequalities for the Weil height.*

We will describe two Diophantine problems with bounds on the Weil height of the solutions. A unit β in a finite Galois extension l/\mathbb{Q} is a *Minkowski unit* if its Galois conjugates generate a subgroup of maximum rank. Minkowski proved that such units exist. We show that such units exist with Weil height bounded by a natural expression depending on the full group of units.

Let l/k be a finite extension of number fields and F in $l[x_1, x_2, \dots, x_N]$ a norm form associated to a *full* module in l . If $\gamma \neq 0$ is an algebraic integer in k , the set of algebraic integers $\xi_1, \xi_2, \dots, \xi_N$ in l that satisfy the norm form equation $F(\xi_1, \xi_2, \dots, \xi_N) = \gamma$ is naturally a union of certain disjoint equivalence classes. We show that each equivalence class has a representative with Weil height bounded by an expression depending on the full module. (Received September 21, 2017)