

1039-52-59

Han M Duong* (han@math.uiuc.edu), 109 George Huff Dr, Urbana, IL 61801. *Minimal Volume k -Point Lattice d -Simplices.*

We improve upon recent results by Reznick, and Bey, Henk, and Wills. We show that the $k \geq 1$ interior lattice points of a lattice d -simplex with minimal volume $\frac{1}{d!}(dk + 1)$ are collinear with a vertex. Moreover, there is exactly one such class of d -simplices under unimodular transformations provided $d \geq 3$. Counterexamples will be given for \mathbb{R}^2 . (Received March 03, 2008)