1035-11-109 **Lenny Fukshansky*** (lenny@cmc.edu), Department of Mathematics, Claremont McKenna College, Claremont, CA , and **Sinai Robins**, Department of Mathematics, Temple University, Philadelphia, PA. *Frobenius number, covering radius, and well-rounded lattices.*

Let $N > 1$ be an integer, and let $1 < a_1 < \ldots < a_N$ be relatively prime integers. Frobenius number of this N-tuple is defined to be the largest positive integer that cannot be expressed as a linear combination of $a_1, \ldots, a_N$ with non-negative integer coefficients. We use techniques from the geometry of numbers to produce a new upper bound on the Frobenius number, which is symmetric in all of the a_i's, by relating it to the covering radius of the null-lattice of the linear form with coefficients $a_1, \ldots, a_N$. We discuss some situations in which our bound is better than the previously known ones; in particular, this is the case when the lattice has equal successive minima, which we show happens infinitely often. (Received July 25, 2007)