1154-90-805 **Alberto Del Pia** and **Carla Michini*** (michini@wisc.edu). *A simplex-like algorithm for linear programs on lattice polytopes.*

We consider a simple lattice polytope P contained in $[0,k]^n$ and defined via m linear inequalities. The diameter of such lattice polytopes is in $\Omega(kn)$, as proven in Deza et al. Given an integer objective function c to maximize over P and an initial vertex x_0 of P, we compute a path along the edges of P, that starts in x_0 and ends at an optimal vertex of P with respect to c. The runtime of the algorithm is polynomial in n, m and k. (Received September 10, 2019)