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hoda bidkhor* (hbidkho@ncsu.edu), 1009 Wade Ave, Apt 455, Raleigh, NC 27605. *Lattice path matroid polytopes.*

Fix two lattice paths P and Q from $(0; 0)$ to $(m; r)$ that use East and North steps with P never going above Q .

Bonin et al show that the lattice paths that go from $(0; 0)$ to $(m; r)$ and remain bounded by P and Q can be identified with the bases of a particular type of transversal matroid, which we call a lattice path matroid.

We investigate properties of lattice path matroid polytopes, the polytope associated to these matroids. This includes their face structure, their decomposition and triangulation as well as formula for calculating their Ehrhart polynomial and volume. (Received August 01, 2011)