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Benjamin J. Braun* (braun@ms.uky.edu), 719 Patterson Office Tower, Department of Mathematics, University of Kentucky, Lexington, KY 40506. *h^* -Vectors for Lattice Polytopes.*

The h^* -vector of a lattice polytope P is the coefficient vector of the numerator of the Ehrhart series for P . Describing the set of all possible h^* -vectors is a challenging problem, as is determining if a given vector is an h^* -vector. We will first discuss an example of a simple vector which might (or might not) be an h^* -vector; this example was produced during joint work with Mike Develin on roots of Ehrhart polynomials. We will then discuss one method of constructing large h^* -vectors using free sums of reflexive polytopes. (Received September 06, 2007)