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Margaret Bayer, Bennet Goeckner, Su Ji Hong, Tyrrell McAllister, McCabe Olsen, Casey Pinckney* (pinckney@math.colostate.edu), **Julianne Vega, Martha Yip and Semin Yoo.** *Lattice polytopes from Schur polynomials.*

Our focus is to study lattice polytopes that arise from a classical family found in algebraic combinatorics called Schur polynomials. In particular, we are interested in determining when such a polytope has the Integer Decomposition Property and when it is reflexive. A polytope P has the Integer Decomposition Property if every lattice point in the t^{th} dilation of P can be written as a sum of t lattice points in P . A polytope P whose interior contains the origin is reflexive if for every facet of P , there are no integer lattice points between the affine hyperplane spanned by P and the parallel hyperplane passing through the origin. In other words, reflexive polytopes contain exactly one interior lattice point. We show that every polytope arising from Schur polynomials in the way we are considering has the Integer Decomposition Property, and we give a complete characterization of those which are reflexive. (Received September 15, 2019)