

A polynomial has saturated Newton polytope (SNP) if every lattice point of the convex hull of its exponent vectors corresponds to a monomial. We compile instances of SNP in algebraic combinatorics (some with proofs, others conjecturally): skew Schur polynomials; symmetric polynomials associated to reduced words, Redfield--Polya theory, Witt vectors, and totally nonnegative matrices; resultants; discriminants (up to quartics); Macdonald polynomials; key polynomials; Demazure atoms; Schubert polynomials; and Grothendieck polynomials, among others. This talk will describe some of the initial findings from joint work with C. Monical and N. Tokcan. It will also discuss subsequent developments due to A. Fink-K. Meszaros-A. St. Dizier, K. Meszaros-A. St. Dizier, L. Escobar-A. Yong, and A. Woo-A. Yong.