1158-05-236   **Martha Yip*** (`martha.yip@uky.edu`). *Newton polytopes arising from Schur polynomials and symmetric Grothendieck polynomials.* Preliminary report.

A Newton polytope associated to a polynomial is a lattice polytope associated to a multivariable polynomial. Recently, Monical, Tokcan and Yong initiated the study of the Newton polytope of many classes of polynomials from algebraic combinatorics, but open questions remain.

We study some properties of two families of Newton polytopes arising from symmetric functions: the Schur polynomials s_λ and the symmetric Grothendieck polynomials G_λ. Specifically, we show that $\mathrm{Newt}(s_\lambda)$ and $\mathrm{Newt}(G_\lambda)$ have the integer decomposition property, and discuss when these polytopes are reflexive. We also compute the h^*-vector for reflexive $\mathrm{Newt}(s_\lambda)$ and show that it is unimodal, thereby providing a family of lattice polytopes as an example which supports a conjecture of Stanley.

This is joint work with Bayer, Goeckner, Hong, McAllister, Olsen, Pinckney and Vega. (Received March 02, 2020)