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Brett Collins* (bacwvf@mail.missouri.edu). *Generalized Littlewood-Richardson coefficients for branching rules and extremal weight crystals.*

Littlewood-Richardson coefficients are certain multiplicities that arise naturally in many areas of representation theory and algebraic combinatorics. Derksen and Weyman used quiver invariant theory to identify these coefficients with the dimension of a weight space of semi-invariants. In this talk, I will describe how their methods can be used to give a similar interpretation for the multiplicities of certain branching rules for GL_n and extremal weight crystals. This allows a proof of their saturation, a polytopal description of the nonzero coefficients, and that their positivity can be determined in polynomial time. (Received September 22, 2017)