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Ayah Almousa* (aka66@cornell.edu) and **Keller VandeBogert**. *Polarizations and Hook Partitions*.

We relate combinatorial conditions for polarizations of powers of the graded maximal ideal with rank conditions on submodules generated by collections of Young tableaux. We apply discrete Morse theory to the hypersimplex resolution introduced by Batzies–Welker to show that the L -complex of Buchsbaum and Eisenbud for powers of the graded maximal ideal is supported on a CW-complex. We then translate the “spanning tree condition” of Almousa–Fløystad–Lohne characterizing polarizations of powers of the graded maximal ideal into a condition about which sets of hook tableaux span a certain Schur module. As an application, we give a complete combinatorial characterization of polarizations of so-called “restricted powers” of the graded maximal ideal. (Received August 09, 2021)