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Murnaghan-Nakayama Rule for Quasisymmetric Schur Functions. Preliminary report.

The quasisymmetric Schur functions are a basis of the ring of quasisymmetric functions, indexed by weak compositions. They have been shown to refine the classical Schur functions in many nice ways. We present here a new combinatorial proof of the classical Murnaghan-Nakayama rule for Schur functions and generalize it to an analogous rule for the quasisymmetric Schur functions. That is, we show how to multiply a power symmetric function by a quasisymmetric Schur function and expand the result as a sum of quasisymmetric Schur functions, giving a combinatorial interpretation of the coefficients that arise in this sum. (Received February 23, 2015)