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Elizabeth Niese* (niese@marshall.edu), Department of Mathematics, Marshall University, One John Marshall Drive, Huntington, WV 25755. *A Remmel-Whitney style rule for products of quasisymmetric and symmetric Schur functions.* Preliminary report.

Remmel and Whitney provided an algorithmic method to compute the Littlewood-Richardson coefficients appearing when the product of two Schur functions is expanded in the Schur basis. The quasisymmetric Schur functions, QS_α , introduced by Haglund, Luoto, Mason, and van Willigenburg provide a basis for the ring of quasisymmetric functions. While products of two quasisymmetric Schur functions do not necessarily expand positively as a sum of quasisymmetric Schur functions, the product of a quasisymmetric Schur function and (symmetric) Schur function does. There is a combinatorial description of the coefficients of this expansion in terms of “Littlewood-Richardson composition tableaux” satisfying certain requirements. In this talk we present an alternate way to obtain these coefficients by algorithmically constructing a set of composition tableaux whose shapes correspond to the coefficients appearing in the product of $QS_\alpha \cdot s_\lambda$. (Received September 20, 2016)