
Symmetric Fundamental Expansions to Schur Positivity

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Abstract

We consider families of quasisymmetric functions with the property that if a symmetric function f is a positive sum of functions in one of these families, then f is necessarily a positive sum of Schur functions. Furthermore, in each of the families studied, we give a combinatorial description of the Schur coefficients of f . We organize six such families into a poset, where functions in higher families in the poset are always positive integer sums of functions in each of the lower families.

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