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0-Hecke modules for quasisymmetric Schur functions

The quasisymmetric Schur functions introduced by Haglund, Mason, Luoto and van Willigenburg are a basis for the algebra of quasisymmetric functions. They refine the classical Schur functions in a natural way and mimic many of their combinatorial properties.

In this talk we will define an action of the 0-Hecke algebra on standard reverse composition tableaux of composition shape α and use it to produce a 0-Hecke module whose quasisymmetric characteristic is the quasisymmetric Schur function S_α. Furthermore, we will identify those modules that are indecomposable and cyclic. This is joint work with Stephanie van Willigenburg.