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The Murnaghan-Nakayama rule for k-Schur functions

We prove the Murgnaghan-Nakayama rule for k-Schur functions of Lapointe and Morse, that is, we give an explicit formula for the expansion of the product of a power sum symmetric function and a k-Schur function in terms of k-Schur functions. This is proved using the noncommutative k-Schur functions in terms of the nilCoxeter algebra introduced by Lam and the affine analogue of noncommutative symmetric functions of Fomin and Greene.

This is joint work with Jason Bandlow and Mike Zabrocki (arXiv:1004.4886).