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Homological properties of finite type quiver Hecke algebras.

I will talk about some joint work with Alexander Kleshchev and Peter McNamara. We give an elementary algebraic way to realize the irreducible representations of finite type quiver Hecke algebras (KLR algebras) based on a theory of standard and proper standard modules. These two sorts of standard modules categorify the PBW and dual PBW bases, respectively. They have nice homological properties similar to those of a quasi-hereditary algebra. Previously the results had been obtained by Kato in simply-laced types via some geometry. (Received September 05, 2013)