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Between equivariant and constructible Yoneda algebras in the p -adic local Langlands correspondence

For a p -adic group G , extensions between perverse sheaves on an associated moduli space of Langlands parameters have been used in a variety of ways to model local portions of $\mathbf{Rep}(G)$. Famously, Lusztig was able to realise particular graded affine Hecke algebras describing subcategories of $\mathbf{Rep}(G)$ as the Yoneda algebra generated by certain \widehat{G} -equivariant perverse sheaves on the moduli space, where extensions are taken in the \widehat{G} -equivariant derived category. If one instead takes extensions in the usual constructible, derived category, this alternative approach, due to Chriss and Ginzburg and others, produces a localization of the same affine Hecke algebra at a point on the Bernstein centre for G .

In this talk, we describe cases where these two Yoneda algebras are, in fact, Koszul dual to one-another, producing a Koszul duality in-kind between the graded affine Hecke algebra and the localized affine Hecke algebra.