

# Dirac operators for Hopf-Hecke algebras

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Algebraic Dirac operators have been used to study representations of different algebraic objects ranging from Lie groups to Hecke algebras. We discuss these theories from a generalized perspective using a framework involving Hopf algebras and PBW deformations. This allows us to generalize a result known as “Vogan’s conjecture” in various special cases which relates the cohomology of Dirac operators to central characters. At the same time, our results extend the scope of Dirac operators as representation theoretic tools, which we discuss using the example of infinitesimal Cherednik algebras.