Equivariant Elliptic Cohomology in Geometric Representation Theory

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Abstract

This talk aims to give an impression of some recent developments in Geometric Representation Theory. I will start by reporting on joint work with Arun Ram identifying the analogue of the Weyl character formula in elliptic cohomology. The result is the Weyl Kac formula, but the derivation involves no loop groups, no infinite dimensional objects, only the compact flag variety. Time permitting, I will also comment on work of Aganagik-Okounkov concerning the equivariant elliptic cohomology of Nakajima quiver varieties and by Zhao-Zhong on elliptic affine Hecke algebras.