

Equivariant K-theory of the nilpotent cone

Viktor Ostrik
Department of Mathematics
MIT

Abstract

Let G be a reductive group and let \mathcal{N} be its nilpotent cone. Let $K_G(\mathcal{N})$ be the Grothendieck group of the category of G -equivariant coherent sheaves on \mathcal{N} . We will construct a Kazhdan-Lusztig type basis in $K_G(\mathcal{N})$ parametrized by dominant weights for G . On the other side this basis is close to a basis of $K_G(\mathcal{N})$ consisting of irreducible G -equivariant bundles on nilpotent orbits. In this way we get a realization of Lusztig's bijection between dominant weights and irreducible G -bundles on orbits.