Ivan Loseu, Northeastern University

MIT Lie Groups Seminar, February 20, 2013

Dimensions of irreducible modules over W-algebras

I will explain how one can compute dimensions of finite-dimensional irreducible modules with integral central characters over finite W-algebras. The dimension formula basically involves parabolic Kazhdan-Lusztig polynomials and is provided by a quotient functor from an appropriate parabolic category \mathcal{O} . In my talk I will concentrate on even nilpotent elements, where everything is more explicit than in the general case. Time permitting I will also explain the general case and will mention some other related results and conjectures, in particular, a recent work of Bezrukavnikov and Mirković.