Algebra/Topology Seminar

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Demazure-Lusztig Operators, Whittaker Functions, and Crystals

Thursday, December 7, 2017
1:15 p.m. in ES-143

Abstract. In this talk we will discuss how Demazure-Lusztig operators can be used to study p-adic (Iwahori-)Whittaker functions in both the classical and the metaplectic, finite-dimensional and general Kac-Moody setting. The operators can be used to understand constructions of Whittaker functions in terms of combinatorial devices (such as highest weight crystals) in the finite-dimensional setting. They also provide a tool to extend these constructions to a greater generality. In addition, Weyl symmetrizers built from these operators raise interesting questions related to Macdonald's constant term conjecture.