

Geometric representations of affine W -algebras

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1. Abstract

We will discuss how to realize categories of highest weight representations of affine W -algebras as categories of perverse sheaves on affine flag manifolds, and the modules for affine Hecke algebras which they categorify. Applications, e.g. to character formulas and the Kac--Roan--Wakimoto conjecture, will be discussed. For principal nilpotent elements, this was worked out jointly with Raskin, and the general case is work in progress with Arakawa.