

Algebraic representations and constructible sheaves[★]

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Abstract. I survey what is known about simple modules for reductive algebraic groups. The emphasis is on characteristic $p > 0$ and Lusztig's character formula. I explain ideas connecting representations and constructible sheaves (Finkelberg–Mirković conjecture) in the spirit of the Kazhdan–Lusztig conjecture. I also discuss a conjecture with S. Riche (a theorem for GL_n) which should eventually make computations more feasible.

Keywords and phrases: algebraic groups, representations, perverse sheaves, Hecke category

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