NON-RESTRICTED REPRESENTATIONS AND COHERENT SHEAVES: FROM POSITIVE TO ZERO CHARACTERISTIC

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Abstract

Our joint work with Mirkovic and Rumynin identifies the category of non-restricted modules over a semi-simple Lie algebra in characteristic p (with a fixed infenitesimal central character) with a subcategory in the derived category of coherent sheaves on the formal neighborhood of the corresponding Springer fiber. I will discuss ways to show that this subcategory is in a sense independent of p.