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Kenyon J Platt* (kenyon.platt@snow.edu). *Classifying the semisimple infinitesimal blocks of the parabolic category \mathcal{O} .*

Using a standard parabolic subalgebra \mathfrak{p}_S of a finite-dimensional semisimple Lie algebra \mathfrak{g} over the complex numbers, we can define a category of \mathfrak{g} -modules with certain nice ‘finiteness’ properties. This category, called a parabolic category, is a generalization of the Bernstein-Gelfand-Gelfand category \mathcal{O} . The parabolic category \mathcal{O}_S decomposes into special subcategories called infinitesimal blocks. Each infinitesimal block contains at most finitely many simple \mathfrak{g} -modules. We call an infinitesimal block consisting only of modules that are a direct sum of the simple modules in the block a semisimple block. In this talk, I will discuss a partial classification of the semisimple infinitesimal blocks and present a conjectured complete classification. (Received December 01, 2011)