

Weight Modules of Algebras of Differential Operators

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Weight modules are modules that decompose as direct sums of weight spaces. Particular examples of weight modules include parabolically induced modules and highest weight modules. In this talk we will discuss equivalences of categories of weight modules over the complex Lie algebra $sl(n+1)$ and weight modules over algebras of twisted differential operators on the projective space. Necessary and sufficient conditions for the blocks of these categories to be tame and to be Koszul will be provided. The talk is based on a joint work with V. Serganova.