

Lie Group and Representation Theory Seminar, Kyoto 2006

Date: June 20 (Tue), 2006, 16:30–17:30

Place: RIMS, Kyoto University : Room 402

Speaker: Pavle Pandzic (University of Zagreb)

Title: A simple proof of Bernstein-Lunts equivalence

Abstract:

In a paper in J. Amer. Math. Soc., Bernstein and Lunts proved that the equivariant derived category of (\mathfrak{g}, K) modules is equivalent to the ordinary derived category of (\mathfrak{g}, K) modules. Their proof is quite complicated; it uses K -injective resolutions and a few dualizing arguments. In addition, it works only for bounded derived categories.

I will present a simple proof of this result using K -projectives and some basic properties of triangulated categories. This requires the group K to be reductive, but this assumption is easily eliminated. No boundedness assumptions are necessary in my approach.

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