Lie Group and Representation Theory Seminar, Kyoto 2006

Date: **October 31 (Tue), 2006 14:00–15:00**

Place: **RIMS, Kyoto University : Room 402**

Speaker: **西山享 Kyo Nishiyama (Kyoto University)**

Title: **Resolution of null fiber and its quotient as a conormal bundle over Lagrangean Grassmannian**

Abstract: **We give an explicit realization of the resolution of singularities of each irreducible component of the null fiber of standard contraction map of $U \otimes V + U \times V^*$ by the action of $GL(V)$.**

Then, the categorical quotient by $O(U) \times O(U)$ of the resolution turns out to be a conormal bundle of a certain closed $GL(V)$-orbit in the Lagrangean Grassmannian. The moment map image of the conormal bundle is the closure of a spherical nilpotent orbit, which is the theta lift of the trivial nilpotent orbit for a certain indefinite orthogonal group in the stable range.

We will explain the construction in detail, and relationships with representation theory and prehomogeneous spaces.

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