

Lie Group and Representation Theory Seminar

Date: October 22 (Fri) 17:00–18:00
Place: RIMS 402
Speaker: **松本久義** Hisayosi Matumoto (University of Tokyo)
Title: Derived functor modules arising as large irreducible constituents of degenerate principal series
(joint work with Peter E. Trapa)

Abstract:

We consider a degenerate principal series of $G = \mathrm{Sp}(p, q)$ and $\mathrm{SO}^*(2n)$ with an infinitesimal character appearing as a weight of some finite-dimensional G -representation. We prove that each irreducible constituent of the maximal Gelfand-Kirillov dimension is a derived functor module. We also show at a most singular parameter each irreducible constituent is weakly unipotent and unitarizable. Moreover, any weakly unipotent representation associated to a real form of the corresponding Richardson orbit is unique up to isomorphism and can be embedded into a degenerate principal series of the most singular integral parameter, except for the very even cases. We also discuss edge-of-wedge-type embeddings of derived functor modules into degenerate principal series.

Prior to this seminar, Matumoto will give an introductory lecture on unipotent representations from 15:00-16:30 in the same room.

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