

Lie Group and Representation Theory Seminar

Date: November 29 (Tue), 2005, 16:30–17:30

Place: RIMS, Kyoto University : Room 402

Speaker: Chifune Kai (Kyoto University)

Title: A Characterization of symmetric Siegel domains by
convexity of Cayley transform images

Abstract:

A homogeneous Siegel domain is a higher dimensional analogue of the right (or upper) half plane, and is mapped to a bounded domain by the Cayley transform. Among homogeneous Siegel domains, we have an important subclass consisting of symmetric ones, which we characterize in this talk using the parametrized family of Cayley transforms defined by Nomura. This family includes the Cayley transforms associated with the Bergman kernel and Szegő kernel, and if the domain is symmetric, (the inverse of) the Cayley transform introduced by Korányi and Wolf.

In this talk, we show that the Cayley transform image is convex if and only if the domain is symmetric and the parameter is a specific one so that the Cayley transform coincides with the Korányi-Wolf Cayley transform.

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