Lie Group and Representation Theory Seminar

Date: October 26 (Tue) 16:30–17:30
Place: RIMS Room 402
Speaker: Toshihiko Matsuki (Kyoto University)
Title: Equivalence of domains arising from duality of orbits on flag manifolds III

Abstract:

In my joint work with Gindikin, we defined a $G_R - K_C$ invariant subset $C(S)$ of G_C for each K_C-orbit S on every flag manifold G_C/P and conjectured that the connected component $C(S)_0$ of the identity would be equal to the Akhiezer-Gindikin domain D if S is of nonholomorphic type. This conjecture was proved for closed S by the works of Wolf-Zierau (Hermitian cases) and Fels-Huckleberry (non-Hermitian cases). For open S it was proved in my work generalizing the result of Barchini. (This work also gave an alternative proof for closed S in non-Hermitian cases.) It was also proved for all the other orbits when G_R is of non-Hermitian type in my another work.

Recently the remaining problem for an arbitrary non-closed K_C-orbit in Hermitian cases was solved. I want to talk in the seminar about this work by computing elementary examples. Thus the conjecture is completely solved affirmatively.