Lie Groups and Representation Theory Seminar at the University of Tokyo

リー群論・表現論セミナー

DATE   April 14 (Tue), 2015, 16:30–18:30

PLACE   Room 122, Graduate School of Mathematical Sciences

SPEAKER   **Yuichiro Tanaka (田中雄一郎)** (Institute of Mathematics for Industry, Kyushu University)

TITLE   Visible actions of compact Lie groups on complex spherical varieties (複素球多様体へのコンパクトリー群の可視的作用について)

ABSTRACT   With the aim of uniform treatment of multiplicity-free representations of Lie groups, T. Kobayashi introduced the theory of visible actions on complex manifolds.

In this talk we consider visible actions of a compact real form U of a connected complex reductive algebraic group G on G-spherical varieties. Here a complex G-variety X is said to be spherical if a Borel subgroup of G has an open orbit on X. The sphericity implies the multiplicity-freeness property of the space of polynomials on X. Our main result gives an abstract proof for the visibility of U-actions. As a corollary, we obtain an alternative proof for the visibility of U-actions on linear multiplicity-free spaces, which was earlier proved by A. Sasaki (2009, 2011), and the visibility of U-actions on generalized flag varieties, earlier proved by Kobayashi (2007) and T- (2013, 2014).