THE UNIVERSITY   **OF HONG KONG**

Institute of Mathematical Research
Department of Mathematics

Geometry Seminar

Recognizing *G/P* by its varieties of minimal rational tangents

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Abstract

Let *G/P* be a rational homogeneous space of Picard number 1 and let *X* be a Fano manifold of Picard number 1. The question we are interested in is: if the variety of minimal rational tangents at a general point of *X* is isomorphic to that of *G/P*, is *X* biholomorphic to *G/P*? An affirmative answer was given for *G/P* associated with a long root in the works of Mok and Hong-Hwang in 2008. The question has been open for the other *G/P*, i.e., symplectic Grassmannians and two cases of F_4-homogeneous spaces. In a recent joint-works with Qifeng Li, we settle the case of symplectic Grassmannians and the 15-dimensional F_4-homogeneous space. We report on these results and also discuss the remaining 20-dimensional F_4-homogeneous space.

Date: November 28, 2017 (Tuesday)

Time: 4:00 – 5:00pm

Venue: Room 210, Run Run Shaw Bldg., HKU

All are welcome