



The Hong Kong University of Science and Technology

Department of Mathematics

Hong Kong Geometry Colloquium

On projective varieties with very large canonical volume

By

Prof. Chen Meng

Fudan University, Shanghai

Abstract

According to the established theorem of Hacon—McKernan, Takayama and Tsuji, there exists a minimal integer r_n ($n > 0$) such that the pluricanonical map Φ_m is birational for all $m \geq r_n$ and for all smooth projective n -folds of general type. The conjectured "Reduction Principle" says that there is a constant $V_n > 0$ such that, for all smooth projective n -folds with the canonical volume $\text{Vol} > V_n$, the pluricanonical map Φ_m is birational for all $m \geq r_{n-1}$. In this talk, we shall introduce the proof of such a reduction principle for 4-folds and 5-folds. (This is my joint work with Zhi Jiang from Univ. Paris 11.)

Date : Saturday, 14 February 2015

Time : 10:00a.m.-11:00a.m.

***Venue : Room 2463, Academic Building
(near Lifts 25 & 26), HKUST***

Definite affine spheres via loop groups

By

Dr. Wang Erxiao

HKUST

Abstract

In the background of mirror symmetry, Loftin-Yau-Zaslow constructed some global hyperbolic/elliptic affine sphere immersions from Riemann sphere minus 3 points, also called "trinoids". This has motivated our extensive studies of such surfaces from integrable system or soliton theory. This talk will report the current status of our progress: dressing actions with soliton examples (preprint with my two PhD students), their Weierstrass or DPW representation using an Iwasawa decomposition of $A_2^{(2)}$ loop group (preprint with Dorfmeister), equivariant solutions (preprint), radially symmetric solutions with relations to Painleve and hypergeometric functions, and general construction of trinoids (joint project with Dorfmeister). We also hope to give a table of such generalized Iwasawa decompositions for all affine Kac-Moody groups and their Matsuki-type correspondences (joint project with Prof Zhu). The speaker would like to express the deepest gratitude for the support of HKUST and TUM during these works.

Date : Saturday, 14 February 2015

Time : 11:20a.m.-12:20a.m.

***Venue : Room 2463, Academic Building
(near Lifts 25 & 26), HKUST***

All are welcome !

Light refreshment will be provided at Room 3493 from 11:00 am to 11:20 am