Institute of Mathematical Research
HKU

Department of Mathematics
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Hong Kong Geometry Colloquium

April 6, 2013 (Saturday)

Room 210, Run Run Shaw Bldg., HKU

Professor José Seade

Universidad Nacional Autónoma de México-UNAM, Cuernavaca, Mexico

Discrete groups acting on complex projective spaces

10:00 – 11:00am

Abstract

Classical Kleinian groups are discrete subgroups of $PSL(2,C)$, the group of automorphisms of the complex projective line CP^1, which coincides with the Riemann sphere S^2. Given any such group G, we have a natural splitting of CP^1 into two G-invariant subspaces: One of these is the limit set L of G, which by definition is the set of accumulation points of the G-orbits. The other is its complement U, the region of discontinuity. It is in L where the dynamics concentrates, and the study of the dynamical properties of G has been for decades a paradigm for holomorphic dynamics. On the other hand, the G-action on U is properly discontinuous, the quotient U/G is a Riemann surface with a projective orbifold structure, and the study of the geometry of these orbifolds has been a paradigm for complex geometry for more than a century.

We shall discuss the analogous setting for subgroups of $PSL(n+1,C)$, the group of automorphisms of the complex projective space CP^n.

11:00 – 11:20am *Tea Break*

Professor Chunping Zhong

Xiamen University, China

Characterizations of complex Finsler connections and weakly complex Berwald metrics

11:20am – 12:20pm

Abstract

In this talk, I will recall some complex Finsler connections associated to strongly pseudoconvex Finsler metrics, and give characterizations of them. I will also introduce the notion of weakly complex Berwald metric, and give a characterization of this kind of metric in case that it is also a strongly convex weakly Kähler-Finsler metric. I will provide an example to show that it is a weakly complex Berwald metric in our sense.

This meeting is hosted by the Institute of Mathematical Research, HKU.

All are Welcome