THE UNIVERSITY  OF HONG KONG

Institute of Mathematical Research
Department of Mathematics

LECTURE SERIES

Discrete groups acting on complex projective spaces

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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.

In these lectures we shall discuss the analogous setting for subgroups of $PSL(n+1,C)$, the group of automorphisms of the complex projective space CP^n. The first lecture will give a global view of the subject, while the second and third lectures will focus on the case of CP^2 and go deeper into the subject.

Lecture 1*:	April 6, 2013 (Saturday) 10:00 – 11:00am
Lecture 2 :	April 9, 2013 (Tuesday) 4:00 – 5:30pm
~~Lecture 3 :~~	~~April 16, 2013 (Tuesday) 4:00 – 5:30pm~~ CANCELLED

**Lecture 1 is a lecture of the Hong Kong Geometry Colloquium*

Room 210, Run Run Shaw Bldg., HKU

All are welcome