



*Institute of Mathematical Research
Department of Mathematics*

GEOMETRY SEMINAR

Complex, Quaternionic and Borel-deSiebenthal Symmetric Spaces

Professor Joe Wolf

University of California, Berkeley

Abstract

Representations of Lie groups typically show up in cohomology. For compact Lie groups this is the Bott-Borel-Weil Theorem. For noncompact reductive Lie groups the simplest situation is that of the holomorphic discrete series, based on the geometry of bounded symmetric domains. More generally every real reductive Lie group G with discrete series representations has a distinguished family of unitary representations (I'll call it the Borel-deSiebenthal series) that show up in cohomology of lowest possible degree. Their study is based on the geometry of the Riemannian symmetric space G/K and a certain complex bundle over it. I'll try to explain this geometry and indicate some consequences for representation theory.

Date:	February 18, 2009 (Wednesday)
Time:	4:00 - 5:00pm
Place:	Room 517, Meng Wah Complex, HKU

All are welcome