THE UNIVERSITY   **OF HONG KONG**

Institute of Mathematical Research
Department of Mathematics

MINI COURSE

Complex analysis on cycle spaces of flag domains

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Abstract

A q-cycle in a complex manifold X is a linear combination $C = \sum n_j C_j$ with positive integral coefficients of q-dimensional compact complex subvarieties of X. Basic facts about the Barlet space $\mathcal{C}_q(X)$ of all such cycles will be outlined. General methods for constructing holomorphic functions on $\mathcal{C}_q(X)$ will be explained. The concrete case where X is an open orbit of a real semisimple Lie group G_0 in a flag manifold $Z = G/P$ of its complexification G will be discussed in detail. In this flag domain case the focus will be on the method of *Analytic Schubert Duality* which involves Schubert varieties which are transversal to the cycles. Results of a combinatorial nature on the precise description of the dual Schubert varieties will be presented.

Lecture 1:	December 2, 2013 (Monday) 3:30 – 5:00pm
Lecture 2:	December 4, 2013 (Wednesday) 1:30 – 3:00pm

Room 210, Run Run Shaw Bldg., HKU

All are welcome