



Institute of Mathematical Research

Department of Mathematics

Geometry Seminar

April 1, 2004 (Thursday)

517 Meng Wah Complex, HKU

Milen Yakimov

University of California at Santa Barbara

Poisson structures on homogeneous spaces of reductive groups and combinatorics

3:00 – 4:00pm

Abstract

Poisson structures on reductive algebraic groups and their homogeneous spaces form one of the richest classes of Poisson structures known at present, and they have many applications to problems in representation theory, combinatorics, and integrable systems. We will describe general results, relating their study to the combinatorics of double cosets in reductive groups and of their intersections. These problems appear to be a lot harder than the classical problems for double cosets of parabolics and intersections of orbits of various parabolics on flag varieties. We offer treatment to some of those problems, based on works with Jiang-Hua Lu and Kenneth Goodearl.

4:00 – 4:15

Tea Break

Gang Han

The Hong Kong University of Science and Technology

Clifford algebras associated to symmetric pairs

4:15 – 5:15pm

Abstract

Bertram Kostant found that the spin ad representation of a semisimple Lie algebra is primary. We will consider the spin v representations associated with symmetric pairs, which is a generalization of spin ad representation, and classify such symmetric pairs with primary spin v representations. Then we give some decompositions of the Clifford algebra associated with such symmetric pairs.

All are welcome
