THE UNIVERSITY   **OF HONG KONG**

Institute of Mathematical Research
Department of Mathematics

C O L L O Q U I U M

Invariant Theory - Old and New

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Abstract

Symmetric polynomials are defined with the property that they are invariant under all possible permutations of the variables. A fundamental theorem of the undergraduate algebra course states that every symmetric polynomial can be expressed in terms of the elementary symmetric polynomials and this expression is unique.

Invariant theory studies polynomials which are invariant under the action of a group of linear transformations of the variables. We shall discuss the main topics in algebraic invariant theory: finite generation (14-th Hilbert problem), generators and defining relations of the algebra of invariants, the Molien-Weyl formula for the Hilbert series of the algebra of invariants, invariant theory of concrete important groups, as well as some relations of invariant theory with other branches of algebra.

Date: September 16, 2004 (Thursday)

Time: 3:00 – 4:00pm

Place: Room 517, Meng Wah Complex

All are welcome