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The Hong Kong University of Science and Technology

Department of Mathematics

Departmental Colloquium

Positivity of vector bundles and Hodge theory

by

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Abstract

The general theme of this talk will be “The unreasonable effectiveness of curvature in algebraic geometry“. After a general discussion of measures of positivity and singularities of metrics and curvature, we will explain how the curvature of bundles arising from Hodge theory have signs and have mild singularities. As an application we will be able to define and describe properties of the Hodge-theoretic Satake-Baily-Borel completion of the image of the image of the period mapping of the Koll`ar-Shepherd-Barron-Alexeev moduli space of varieties of general type. In the non-classical case (i.e. the period domain is not Hermitian symmetric) entirely new phenomena arise. (joint work Mark Green, Radu Loza and Colleen Robles)

Date: Monday, 18 Sept, 2017

Time: 2:30p.m.-3:30p.m.

***Venue: IAS Room 4042
Lo Ka Chung Building
Lee Shau Kee Campus, HKUST***

All are welcome!