

THE UNIVERSITY



OF HONG KONG

*Institute of Mathematical Research
Department of Mathematics*

GEOMETRY SEMINAR

Residue functions, adjoint ideal sheaves and their applications

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Abstract

We introduce in this talk a class of “residue functions”, each of which “deforms” holomorphically certain weighted L^2 norm on the ambient complex manifold X to an L^2 norm on the union of certain log-canonical (lc) centres of a given lc pair (X, D) . The properties of such residue functions can be encoded into a sequence of analytic adjoint ideal sheaves, which fit into various residue short exact sequences and are useful in facilitating induction on (co)dimension of lc centres in geometric problems involving lc singularities. As an illustration, we will see their use in a solution to Fujino’s conjecture, that is, the injectivity theorem for lc pairs on compact Kähler manifolds. The content of this talk is based on the joint work with Young-Jun Choi and Shin-ichi Matsumura.

Date: December 12, 2024 (Thursday)

Time: 2:00 – 3:00 pm

Venue: Room 210, Run Run Shaw Building, HKU

All are welcome