

THE UNIVERSITY



OF HONG KONG

*Institute of Mathematical Research
Department of Mathematics*

GEOMETRY SEMINAR

Generic theta divisors

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Date: July 15, 2025 (Tuesday)

Time: 3:00 – 4:00pm

Venue: Rm 210, Run Run Shaw Bldg., HKU

Abstract

A principle governing deformation theory with cohomology constraints in characteristic zero, generalizing Deligne's deformation theory principle, was developed together with B. Wang, M. Rubio in terms of differential graded Lie modules, and, more generally, L -infinity modules. An application of this theory is that for a generic compact Riemann surface the theta function is at every point on the Jacobian equal to its first non-zero Taylor term, up to a holomorphic change of local coordinates and multiplication by a local holomorphic unit. This leads to positive answers to questions of C. Schnell and R. Yang about embedded resolutions, Whitney stratifications, and minimal exponents of generic theta divisors, along with determination of other singularity invariants in this case.

All are welcome