



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PDE

Quantitative stability of the total Q-curvature functional

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Abstract

I will discuss recent work with João Henrique Andrade, Tobias König and Juncheng Wei exploring the stability of the minimizing set of the total Q-curvature functional. The Q-curvature of order k of a Riemannian metric is an analog of the scalar curvature, except that it transforms according to a PDE of order $2k$ under a conformal change. Thus, just as in the scalar curvature setting, one can minimize the volume-normalized total Q-curvature to produce conformal invariants. We show that the distance of a metric to the minimizing set is controlled by a power of the Q-curvature deficit. Generically this exponent is two, but we also produce interesting examples such that the exponent is strictly larger than two.

Date: 24 October 2024 (Thursday)

Time: 4:00pm

Zoom Meeting: <https://hkust.zoom.us/j/94722791613> (Passcode: 552593)

All are Welcome!