



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PURE MATHEMATICS

q -Difference Equations and p -Curvature

by

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Abstract

The concept of p -curvature originated in Grothendieck's unpublished work from the 1960s and was subsequently developed further by V. Katz. The p -curvature plays an important role in the theory of ordinary differential equations (ODEs) as well as holonomic PDEs, establishing a connection between the existence of algebraic fundamental solutions and their behavior under reduction modulo a prime p .

In this talk, I will describe how the p -curvature can be obtained from a reduction of a quantum difference equation on a Nakajima quiver variety X over the field of finite characteristic. Using a Frobenius map, I will show how to calculate the spectrum of this p -curvature.

Date : 14 October 2026 (Wednesday)

Time : 4:00p.m. – 5:00p.m.

Venue : Room 5620 (near Lift 31/32)

All are Welcome!