



THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON PURE MATHEMATICS

**A difference equation approach to Plancherel-Rotach asymptotics
for q -orthogonal polynomials**

by

Prof. Chun-Kong LAW

Department of Applied Mathematics
National Sun Yat-sen University, Taiwan

Abstract

We employ a difference equation approach to study the Plancherel-Rotach asymptotics of q -orthogonal polynomials about their largest zeros. Our method for q -difference equations is an analogue to the turning point problem for Hermite differential equations. It works well in the toy problems of Stieltjes-Wigert polynomials and q^{-1} -Hermite polynomials. We shall also explore the case when q is variable.

The paper is a joint work with Mourad Ismail.

Date : 3 October 2022 (Monday)

Time : 4:00pm – 5:00pm

Venue : Room 4475 (Lifts 25/26)

Zoom Meeting : <https://hkust.zoom.us/j/93678063855> (Passcode: 400379)

All are Welcome!