

THE UNIVERSITY



OF HONG KONG

Department of Mathematics

Qualifying Research Seminar

Ext Groups for Arthur-type Representations of p -adic Groups via Graded Hecke Algebras

Mr. ZHOU Peng

PhD Student, Department of Mathematics, HKU

(Supervisor: Professor KY Chan)

March 19, 2025 (Wednesday) at 3:00pm

Rm 210, Run Run Shaw Building, HKU

Abstract

Ext-groups of representation theory of p -adic reductive groups have been studied for more than one decades. The extensions of discrete series, tempered representations and standard modules have been now well-understood. Several years ago, Dipendra Prasad proposed to generalize to branching laws, which have been accordingly studied by Chan and Chan-Savin.

In this talk, we will review the background of Ext branching laws, and then introduce our graded Hecke algebra approach to study Ext-groups of Arthur type representations and related questions. We shall explain some new explicit computations for some Ext-groups and outline future research plans on Extbranching laws.

All are welcome