THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

PHD STUDENT SEMINAR

Realization of Algebraic Families of Harish-Chandra Modules in the Hydrogen Atom

By

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Abstract

The Harish-Chandra module plays an essential role in the study of representation theory, and its family version is introduced by Joseph Bernstein in an algebro-geometric way. On the other hand, the study of hydrogen atom is a very important test case in quantum mechanics. In this seminar, we follow the recent work by Nigel Higson and Eyal Subag and introduce how the families of Harish-Chandra modules are obtained from the symmetries of the hydrogen atom. Several fundamental consequences in quantum mechanics will be recovered in a representation-theoretical manner with the aid of the families of Harish-Chandra modules.

Date : **7 May 2022 (Saturday)**
Time : **10:00am**
Zoom Meeting : https://hkust.zoom.us/j/95054366771 **(Passcode: 2022)**

All are Welcome!