



Number Theory Seminar

Pencils of quadrics and Brauer groups of hyperelliptic curves

Professor Parimala Raman

Emory University

Abstract

We discuss the unramified Brauer group of function fields of hyperelliptic curves. Period-index questions for the unramified Brauer groups are related to the existence of points on the twisted moduli spaces of stable sheaves with fixed determinant, via the theory of Lieblich. Using this technique, we indicate how one obtains 'period = index' for the unramified Brauer group of function fields of genus 2 curves over totally imaginary number fields. We also explain how the Grassmannian of $g-2$ dimensional linear subspaces in the base locus of a pencil associated to a hyperelliptic curve of genus g describes the twisted moduli spaces; this could lead to further analysis for period-index questions of general genus g hyperelliptic curves.

Date: July 3, 2023 (Monday)

Time: 3:00 - 4:30pm

Venue: Room 210, Run Run Shaw Bldg., HKU

All are welcome