School of Mathematics
Tata Institute of Fundamental Research

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23 April, 2025

Ph.D. Thesis Defense

Speaker	:	*Samiron Sadhukhan*
Title	:	*Duality theorems for curves and surfaces over local fields.*
Date & Time	:	*Wednesday, 30 April, 2025 at 11:00 a.m. (Over Zoom)*

Abstract

For schemes over a local field, there exists a bilinear pairing between Brauer group and Chow group. One of our main results is showing that the pairing is perfect for smooth open curves over local fields of characteristic $p > 0$. We derive this statement using a duality theorem for étale cohomology of logarithmic Hodge-Witt sheaves. We obtain Brauer-Manin pairing for modulus pairs of curves and prove its perfectness. We also prove a duality statement for function field of smooth curves over local fields. Finally, we study left and right kernels of Brauer-Manin pairing for open surfaces over a p-adic field.

Milind Pilankar