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Index reduction formulas for Brauer classes

One of the central problems in the study of division algebras is to determine the dimension of a given division algebra given its Brauer class. In the problem of index reduction, one starts with a division algebra on a field F, a field extension L/F and asks how to compute the dimension of the division algebra on L corresponding to the pullback of the original Brauer class on F.

In this talk I will discuss the use of stable twisted sheaves for computation of the index of a Brauer class, and in particular the case when L is the function field of a curve of genus 1 over F.

This is joint work with M. Lieblich.