http://www.algebraic-geometry.de/workshop-ws1112.html

Workshop on Cohomological Hasse Principles

November 12, 2011 - Essen
December 10, 2011 - Düsseldorf
January 14, 2012 - Paderborn

In 1985 K. Kato formulated a fascinating framework of conjectures which generalize the Hasse principle for the Brauer group of a global field to the so-called cohomological Hasse principle for arithmetic schemes, that is schemes of finite type over a finite field or over the ring of integers in a number field or a local field. The conjecture plays a significant role in arithmetic geometry. There is work on special cases of this conjecture by Kato, Colliot-Thelene and Jannsen-Saito. Recently, Jannsen and Jannsen-Saito proposed general approaches to solve the Kato conjecture for schemes over a finite field assuming the resolution of

$$H^2(K, \mathbb{Z}/n\mathbb{Z}(1)) \to \bigoplus_{x \in X_{(1)}} H^1(x, \mathbb{Z}/n\mathbb{Z})$$

singularities. Based on these results, Kerz and Saito proved the conjecture in the prime-to-characteristic case under weaker assumptions, using refined alterations due to Gabber.

The goal of this workshop is to study the work of Jannsen, Kerz and Saito and some of its applications to higher Chow groups of arithmetic schemes, higher class field theory, and special values of zeta functions.

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Periods, Moduli Spaces, and Arithmetic of Algebraic Varieties

Essener Seminar für Algebraische Geometrie und Arithmetik

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