

Publication List

Jonathan Hanke

Publications

Universal quadratic forms and the 290-theorem, (with M. Bhargava)
(accepted Invent. Math.)

An exact mass formula for quadratic forms over number fields,
J. Reine Angew. Math. **584** (2005), 1–27.

Local densities and explicit bounds for representability by a quadratic form
Duke Math. J. **124** (2004), no. 2, 351–388.

Some recent results about (ternary) quadratic forms,
Number theory, 147–164, CRM Proc. Lecture Notes 36, 2004.

On a local-global principle for quadratic forms,
(unpublished preprint – 2003)

On an exact mass formula of Shimura, (with W.T. Gan and J. Yu),
Duke Math. J. **107** (2001), no. 1, 103–133.

An exact mass formula for quadratic forms over number fields,
Ph.D. Thesis, Princeton University, Spring 1999.

Finiteness theorems for primes and primitive representations, (with M. Bhargava)
(in progress)

Some factorizations of ring determinants,
(in progress)

On a local-global principle for quadratic forms over number fields,
(in progress)

Software

C++, **MAGMA** – developed routines which compute quadratic form local densities at all primes, determines all numbers represented by a positive definite integer-valued quadratic form in 4 variables, and establishes simple finiteness theorems.

SAGE (with W. Stein) – packaged all of the above routines in a nice interface for broad accessibility and ease of use. (in progress)