SIMION STOILOW INSTITUTE OF MATHEMATICS OF THE ROMANIAN ACADEMY

Monthly conference:

Quadratic forms over function fields
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IMAR, *Miron Nicolescu* amphitheater

Abstract: A classical theorem of Hasse-Minkowski leads to the fact that every quadratic form in at least five variables over a totally imaginary number field represents zero nontrivially. One is naturally led to similar questions concerrning function fields of curves over totally imaginary number fields: Do quadratic forms in sufficiently large number of variables represent zero nontrivially over these fields? This is a big open question even for rational function field in one variable over a totally imaginary number field. The expectation is that every quadratic form in at least nine variables over such a field represents zero nontrivially; over function fields of p-adic curves, every form in nine variables admits a nontrivial zero. We shall explain some recent approaches to solve this problem.