

E i n l a d u n g

zum

Kolloquium des Mathematischen Instituts (unterstützt vom Graduiertenkolleg und SFB 478)

am Donnerstag, 23.04.2009 um 16:30 Uhr, im Hörsaal M5, spricht

Professor Dr. Matthias Kreck

(Universität Bonn)

über das Thema:

„Codes, arithmetic and topology“

Abstract:

I will explain the basic idea and definition of error correcting codes over a ring. I will mainly restrict to binary codes. For various reasons self-dual codes are particularly interesting. To each binary code one associates a lattice in R^n which if the code is self-dual is unimodular. These are very interesting objects in arithmetic and very hard to find. Thus, the same holds for self-dual codes. Volker Puppe has noticed that odd-dimensional closed manifolds with involutions with finite fixed set lead to self-dual codes. In joint work we answer the question which self-dual codes occur this way. If there is time I will also speak about codes over the ring of Gaussian integers mod 2 occurring in topology. These codes lead to lattices in C^n which correspond to principally polarized abelian varieties. Most part of the talk is completely elementary.

Tee wird ab 16 Uhr im SR0 des Mathematischen Instituts serviert.