
THE WEIZMANN INSTITUTE OF SCIENCE
FACULTY OF MATHEMATICS AND COMPUTER SCIENCE
Algebraic Geometry and Representation Theory Seminar

Room 261 ,Ziskind Building
on Wednesday, Jan 07, 2015at 11:00

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On Lattices over Valuation Rings of Arbitrary Rank

Abstract:

We show how the simple property of 2-Henselianity suffices to reduce the classification of lattices over a general valuation ring in which 2 is invertible (with no restriction on the value group) to classifying quadratic spaces over the residue field. The case where 2 is not invertible is much more difficult. In this case we present the generalized Arf invariant of a unimodular rank 2 lattice, and show how in case the lattice contains a primitive vector with norm divisible by 2, a refinement of this invariant and a certain class suffice for classifying these lattices.