
JOSE CRUZ AND FATEMEH JALALVAND, University of Calgary
Geometric Properties of Log Unit Lattices

The log unit lattice is the image of the unit group of the ring of integers under the Minkowski embedding in the euclidean space. By studying Minkowski's lattice constructions, one can explore how the intrinsic algebraic features of number fields are reflected in the geometric invariants of the corresponding lattices. This perspective offers valuable insights into the arithmetic structure of number fields and has been fundamental in deriving key results, such as the celebrated class number formula.

In this talk, we will introduce parametrizing spaces for certain families of number fields, within which the associated log unit lattices live. This framework allows us to investigate geometric properties such as orthogonality and well-roundedness.