

A Reverse Minkowski Theorem.

Oded Regev, Courant Institute, New York University

Informally, Minkowski's first theorem states that lattices that are globally dense (have small determinant) are also locally dense (have lots of points in a small ball around the origin). This fundamental result dates back to 1891 and has a very wide range of applications.

I will present a proof of a reverse form of Minkowski's theorem, conjectured by Daniel Dadush in 2012, showing that locally dense lattices are also globally dense (in the appropriate sense).

Based on joint papers with Daniel Dadush and Noah Stephens-Davidowitz.