



universität
wien

Fakultät für Mathematik

Mathematisches Kolloquium

Donnerstag, 17. October 2019
Sky Lounge

EINLADUNG

Maryna Viazovska
(EPF Lausanne)

„Universal optimality of E8 and Leech lattices“

„Universal optimality of E8 and Leech lattices“

Abstract:

In this lecture we will show that the E8 and Leech lattices minimize energy of every potential function that is a completely monotonic function of squared distance (for example, inverse power laws or Gaussians). This theorem implies recently proven optimality of E8 and Leech lattices as sphere packings and broadly generalizes it to long-range interactions. The key ingredient of the proof is sharp linear programming bounds. To construct the optimal auxiliary functions attaining these bounds, we prove a new interpolation theorem. This is the joint work with Henry Cohn, Abhinav Kumar, Stephen D. Miller, and Danylo Radchenko.

15.45 Uhr: Kaffeejause

16.15 Uhr: Vortrag

vinum cum pane im Anschluss

Roland Donninger
Christian Krattenthaler
Anton Mellit