universität wien

Fakultät für Mathematik

"Rigidity theorems and crystalline order"

Abstract:

A classic phenomenon in nature is the emergence of crystalline order at low temperatures. Until recently not much was known about this problem in the case of atomistic systems without a lattice structure. A well accepted mathematical model is given by scalar functions E which assign to finite subsets Y of R^d the energy E[Y], where d is either 2 or 3. The task consists in characterizing the most likely configurations of the Boltzmann-Gibbs distribution $P[Y] = Z^{(-1)} \exp(- E[Y] / T)$ and the minimizers of E. I will discuss the notions 'periodicity of energy minimizers' and 'order formation'; finally I will show that both notions are closely linked to geometric rigidity estimates.

Mathematisches Kolloquium

EINLADUNG

Florian Theil
(Warwick)

Zeit: Mittwoch 16. November 2016
15.45 Uhr Kaffeejause,
16.15 Uhr Vortrag,
vinum cum pane im Anschluss

Ort: Fakultät für Mathematik,
Oskar-Morgenstern-Platz 1,
Sky Lounge

Ulisse Stefanelli
Christian Krattenthaler