

Einladung

zum Vortrag im Rahmen des **SFB Colloquiums** (Standort Linz) bzw. des Group Seminars (RICAM), mit dem Titel

Integer points in large convex bodies

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DATUM: Mittwoch, 21. Juni 2017

ZEIT: 12:00 Uhr

ORT: Science Park 2, SP2 416-2, RICAM

Abstract: Let $\Omega \subset \mathbb{R}^d (d > 1)$ be a convex body with measure $|\Omega|$, and let $R \geq 2$. The problem of estimating the discrepancy

$$\mathcal{D}_{R\Omega} := \text{card}(\mathbb{Z}^d \cap R\Omega) - R^d |\Omega|$$

associated to the dilated body $R\Omega$ carries a long history, particularly when Ω is the unit ball.

It is essentially equivalent to shrink the above problem by considering $\Omega \subset [-\frac{1}{2}, \frac{1}{2}]^d$ and replacing \mathbb{Z}^d with the finite set $M^{-1}\mathbb{Z}^d \cap [-\frac{1}{2}, \frac{1}{2}]^d$, where M is a positive integer.

In this seminar we shall use Fourier Analytic techniques to discuss the following topics:

- estimates for the averages of $\mathcal{D}_{R\Omega}$ over translations and rotations of Ω ;
- estimates for the averages of $\mathcal{D}_{R\Omega}$ over translations and dilations of Ω , when $\partial\Omega$ has strictly positive curvature;
- estimates for $\mathcal{D}_{R\Omega}$ when $\partial\Omega$ has flat points;
- jittered discrepancy.

(from joint works with L. Brandolini, W. Chen, L. Colzani, B. Gariboldi, G. Gigante, A. Greenleaf, M. Rigoli, M. Tupputi)