



universität
wien

Fakultät für Mathematik

Antrittsvorlesung

Mathematisches Kolloquium

Mittwoch, 25. März 2026

Sky Lounge

EINLADUNG

Matija Bucic

(Universität Wien)

„On Graham's rearrangement conjecture“

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Abstract:

In 1971, Ron Graham posed the following well-known conjecture in combinatorial group theory, with interesting connections to design theory, the theory of Latin squares, error-correcting codes, and juggling. Any subset of $\mathbb{Z}_p \setminus \{0\}$, with p a prime, can be ordered as s_1, s_2, \dots, s_t so that all partial sums $s_1 + s_2 + \dots + s_j$ are distinct. We discuss recent work surrounding this conjecture, including a proof of the conjecture for dense sets. Combined with several other recent works, concerned with the sparse case, this gives a full proof of Graham's Conjecture for any large enough prime p . The proof is based on a synergy between a remarkable number of ideas coming from several different areas of mathematics, including Fourier-analytic methods from additive combinatorics, theory of (sublinear) expander graphs, and the absorption method from extremal combinatorics. Based on a joint work with: Benjamin Bedert, Noah Kravitz, Richard Montgomery, and Alp Müyesser.

14.45 Uhr: Kaffeejause

15.15 Uhr: Vortrag

Kleines Buffet im Anschluss

Radu Ioan Boț