

PhD defence

Applied Discrete Mathematics and Cryptography

PhD defence

Audie Warren, RICAM

Thursday, December 17, 2020, 14:00

via Zoom

Abstract

Additive combinatorics is the study of the combinatorial properties of sets of numbers, particularly with respect to the operations of addition and multiplication. This thesis will be primarily concerned with the sum-product phenomenon, which is the principle that a finite subset of a field cannot behave well with respect to both addition and multiplication (unless it is close to being a subfield). Of primary interest are the real numbers and the prime order finite fields.

This thesis uses results from discrete geometry to give improvements to various sum-product type results. Various other results in combinatorial / discrete geometry are proven. It includes joint works with Oliver Roche-Newton, Arne Winterhof, Misha Rudnev, Giorgis Petridis, Mehdi Makhul, and Frank de Zeeuw, and includes results appearing in papers accepted in International Mathematics Research Notices, Proceedings of the American Mathematical Society, Discrete & Computational Geometry, the Moscow Journal of Combinatorics and Number Theory, Finite Fields and Their Applications, and the Electronic Journal of Combinatorics.

Zoom

Thu, Dec 17, 2020 02:00 PM (CET)

<https://jku.zoom.us/j/96259625215?pwd=VVY2bmJ4Z1Z0YjZlUW5FMctGSk4yQT09>

Meeting-ID: 962 5962 5215

Code: 062196

The privacy policy, terms of use, and assistance can be found at

<https://help.jku.at/im/en/it-systeme/videokonferenz-mit-zoom>