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Seminar

A complete classification of rod complements in the 3-torus

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Abstract

Rod packings are used in crystallography to describe crystal structures with linear or zigzag chains of particles, and each rod packing can be topologically viewed as a collection of disjoint geodesics in the 3-torus. In a joint work with Jessica Purcell, we initiated the use of 3-dimensional geometry and tools from the 3-sphere to study the complements of rods in the 3-torus, and we partially classified the geometry of some families of rod complements in the 3-torus. In this talk, we would like to present a complete classification of all rod complements in the 3-torus and an outline of the topological arguments. (Related preprints: <https://arxiv.org/abs/2212.04662>, <https://arxiv.org/abs/2307.06317>)

Date: 15 January 2024 (Monday)
Time: 10:30am – 11:30am (Hong Kong Time)
Venue: Room 222, LSB

All are Welcome