

学术报告

A generalization of an Erdos problem - tiling the integer lattice with translated sublattices

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Venue: Room 108, Center for Applied Mathematics

Abstract: In 1951 Erdos proposed the following problem: Suppose we tile the integers Z with any finite, disjoint union of arithmetic progressions. Then it must be true that at least two of these progressions are translates of each other. In 2012, we extended this problem to the tiling of Z^d with translated sublattices, where the desired conclusion is still open for $d=2$. In 2018, we discovered a new analytic formula, which uses some analytic number theory, and which we call a Lipschitz summation formula for cones. We then apply this Cone Lipschitz summation formula to this problem to get a new formulation in terms of certain group characters for the relevant finite abelian groups that come up naturally when one considers such a decomposition of the integer lattice into translated sublattices.

欢迎大家参加！