

**Mathematische Gesellschaft**

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**“Extremely amenable groups”**

Abstract:

A topological group  $G$  is called extremely amenable if every continuous action of  $G$  on a (non-empty) compact Hausdorff space admits a fixed point. The study of extremely amenable groups dates back to the 1970s, when Herer-Christensen and Gromov-Milman found the first examples, and has since revealed a number of interesting links between topological dynamics, infinite combinatorics, and asymptotic geometric analysis. Examples of such groups include the unitary group of an infinite-dimensional Hilbert space with the strong operator topology, the automorphism group of the ordered rational numbers with the topology of point-wise convergence, and the group of measurable maps from a non-atomic standard probability space into a metrizable compact group with the topology of convergence in measure. The purpose of the talk is to give an introduction to extreme amenability, including connections with Ramsey theory and measure concentration phenomena, and to survey some recent developments.