Kolloquium über Reine Mathematik

Einladung zu einem Vortrag

Dienstag, 28. Mai 2024

17 Uhr, Geom H4

Prof. Basak Gurel
(University of Central Florida)

Title:
Topological Entropy of Hamiltonian Systems and Persistence Modules

Abstract:

Topological entropy is a fundamental invariant of a dynamical system, measuring its complexity. In this talk, we discuss connections between the topological entropy of a Hamiltonian system, e.g., a geodesic flow, and the underlying filtered Morse or Floer homology viewed as a persistence module in the spirit of Topological Data Analysis. We introduce barcode entropy — a Morse/Floer theoretic counterpart of topological entropy — and show that barcode entropy is closely related to topological entropy and that, in low dimensions, these invariants agree. For instance, for a geodesic flow on any closed surface, the barcode entropy is equal to the topological entropy. The talk is based on joint work with Erman Cineli, Viktor Ginzburg, and Marco Mazzucchelli.

**Vor dem Vortrag (ab 16.30 Uhr) stehen im Foyer vor Hörsaal H4
Kaffee und Tee bereit**.