Institut für Geometrie und Topologie

Sommersemester 2025

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String topology and closed geodesics

5. Juni 2025– 16:15 Uhr
Raum 7.530

Abstract: String topology studies algebraic structures like products and coproducts on the homology of the free loop space of a closed manifold. As the closed geodesics in a Riemannian manifold can be studied via the energy functional on the free loop space, Morse theory provides a link between the homology of the free loop space and the closed geodesics. In this talk I will show how one can use the well-known geometry of closed geodesics in symmetric spaces to understand string topology operations and how the behavior of the string topology products can be used to deduce a resonance theorem for closed geodesics.

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