Oberseminar Geometrie und Topologie

Wintersemester 2018/2019

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Toroidal Soap Bubbles: Constant Mean Curvature Tori in S^3 and R^3

20. November 2018 – 16.15 Uhr
Seminarraum IGT, Raum 7.530, Pfaffenwaldring 57

Abstract: Constant mean curvature (CMC) tori in $\boldsymbol{S^3}$or $\boldsymbol{R^3}$are in bijective correspondence with spectral curve data, consisting of a hyperelliptic curve, a line bundle on this curve and some additional data, which in particular determines the relevant space form. This point of view is particularly relevant for considering moduli-space questions, such as the prevalence of tori amongst CMC planes and whether tori can be deformed. I will address these questions for the spherical and Euclidean cases, using Whitham deformations.

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