Bernoullis Tafelrunde

Graduate Student Seminar

Monday, 24 October 2022, 12:15-13:00
Seminarraum 05.002, Spiegelgasse 5

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The Plateau problem and currents

Abstract

The Plateau problem asks for the existence of a minimal surface bounded by a given closed curve in $\mathbb{R}^3$. A surface is called minimal if it minimizes the area of all possible surfaces with the same boundary. In this talk we give an overview of the development from this classical version to higher dimensional analogues in Euclidean spaces and finally a generalized version in metric spaces. Along the way, we introduce currents, which were used to solve the problem, and discuss how this theory adapts to the different situations.