Bernoullis Tafelrunde

Graduate Student Seminar

Monday, 11 March 2024, 12:15-13:00
Seminarraum 05.002, Spiegelgasse 5

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Riemann's Uniformization Theorem

Abstract

The uniformization theorem states that every simply connected Riemann surface is isomorphic to one of the model surfaces, i.e. the sphere, the plane or the disc. These correspond respectively to the three geometries with constant curvature: the spherical geometry, the Euclidean geometry and the hyperbolic geometry. In the seminar we will start by introducing all the relevant notions (Riemann Surfaces, covering spaces, ...) and then we will see how these concepts, and the theorem itself, apply to other areas of mathematics (e.g. plane topology). We will discuss the main ideas of one proof of this theorem.