Bernoullis Tafelrunde

Graduate Student Seminar

Wednesday* 6th November *11:15-12:00
Seminarraum *05.001*, Spiegelgasse 5

ShengYuan Zhao

Université de Rennes

Complex projective structures on Riemann surfaces

Abstract

Manifolds are constructed by patching coordinates charts. We can play with the changes of coordinates in various way: if they are differentiable, then we have differential manifolds; if they are holomorphic, we get complex manifolds, etc... The idea of the notion of geometric structure, introduced by Ehresmann in the 1930s, is to put some symmetry, namely some group actions, into the play. I will focus on one type of geometric structure: complex projective structures on Riemann surfaces. This is the case where the group in the play is PGL(2,C). I will give some examples from where theses structures arise. We will also see that the difference between two such structures can be measured by Schwarzian derivative. This allows us to construct moduli spaces of complex projective structures, which is an affine bundle over the moduli space of curves.