



复旦大学数学科学学院 数学综合报告会

报告题目: Ray structures on Teichmuller space

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报告摘要:

Given an oriented closed surface S of genus at least two, the Teichmuller space of S is the space of equivalence classes of complex structures on S . It is also the space of equivalence classes of hyperbolic structures on S . Deformations of these structures provide several ray structures on the Teichmuller space. In the first part of this talk, we will review some background about Teichmuller space. In the second part, we will show a transition between Teichmuller geodesics and Thurston geodesics via harmonic map (dual) rays. As an application, we construct a new family of Thurston geodesics, the harmonic stretch lines, and show the existence and uniqueness of such lines for any two hyperbolic surfaces in the Teichmuller space. A key ingredient of the proof is a generalized Jenkin-Serrin problem: existence and uniqueness of some tree-valued minimal graphs over hyperbolic domains. This is based on joint works with Michael Wolf.

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