Seminar Differentialgeometrie

Dynamics on Teichmüller space

Sommersemester 2019

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Let S be a closed oriented surface of genus $g \geq 2$. In this seminar, we learn about various aspects of dynamics on Teichmüller space $\mathcal{T}(S)$. We start with showing that the space of holomorphic quadratic differentials on a Riemann surface X can be identified with the cotangent space to $\mathcal{T}(S)$ at X. We then look at the $\mathrm{SL}(2,\mathbb{R})$-action on $\mathcal{T}(S)$.

Further topics will be decided during the course of the seminar.

Organizational meeting on
Tuesday, April 16th, 10.45am in Room 03.414

Time and Location: Thursdays, 9-11am, SR 3

Registration: come to the organizational meeting on April 16th and sign up in Müsli.

Webpage: http://www.mathi.uni-heidelberg.de/∼mpfeil/seminarSoSe19.html

Literature

[1] Benson Farb and Dan Margalit. *A primer on mapping class groups*, volume 49 of *Princeton Mathematical Series*. Princeton University Press, Princeton, NJ, 2012.

[2] John Hamal Hubbard. *Teichmüller theory and applications to geometry, topology, and dynamics. Vol. 1.* Matrix Editions, Ithaca, NY, 2006.

[3] Curtis T. McMullen. The moduli space of Riemann surfaces is Kähler hyperbolic. *Ann. of Math. (2)*, 151(1):327–357, 2000.

[4] Alex Wright. Lectures on the SL(2,R) action on moduli space. https://www.math.uchicago.edu/ eskin/luminy2012/lectures.pdf.