

Smillie, John; Ulcigrai, Corinna

Geodesic flow on the Teichmüller disk of the regular octagon cutting sequences and octagon continued fractions maps. (English) [Zbl 1222.37012](#)

Kolyada, Sergiy (ed.) et al., Dynamical numbers. Interplay between dynamical systems and number theory. A special program, May 1–July 31, 2009. International conference, MPI, Bonn, Germany, July 20–24, 2009. Proceedings. Providence, RI: American Mathematical Society (AMS) (ISBN 978-0-8218-4958-3). Contemporary Mathematics 532, 29-65 (2010).

In an earlier paper the authors investigated the problem of characterizing symbol sequences that arise in coding constant slope trajectories on the regular octagon with opposite sides identified. They developed a continued fraction algorithm and a related Farey map. In the present paper they continue that work by giving “a geometric interpretation of the renormalization algorithm and of the continued fraction map ...introduced [there] to give a characterization of symbolic sequences” mentioned above. They “interpret this algorithm as renormalization on the Teichmüller disk of the octagon and explain the relation with Teichmüller geodesic flow”, and use it to analyze further the continued fraction map.

For the entire collection see [\[Zbl 1205.00087\]](#).

Reviewer: [Douglas S. Shafer \(Charlotte\)](#)

MSC:

37B10 Symbolic dynamics
11J70 Continued fractions and generalizations
37E35 Flows on surfaces

Cited in **1** Review
Cited in **6** Documents

Keywords:

coding trajectories; Teichmüller disk; octagon continued fraction maps

Full Text: [arXiv](#)