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主 論 文 の 要 旨

論文題目 Earle slices associated with involutions for once
punctured torus

(1点穴あきトーラスに関するアール・スライスについて)

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論 文 内 容 の 要 旨

In this paper, I study Earle slices for once punctured torus that are associated with involutions induced by orientation reversing diffeomorphisms. First I classify these Earle slices into two types: rhombic Earle slices and rectangular Earle slices. Then I consider the action of mapping class group on quasi-Fuchsian space and determine the stabilizer subgroup of each Earle slice.

The main purpose of this paper is to study the configuration of Earle slices in quasi-Fuchsian space. I obtain a necessary and sufficient condition for two Earle slices to intersect each other. More precisely, I first obtain a necessary and sufficient condition for two rhombic Earle slices to intersect each other. Next, I show that two rectangular Earle slices do not intersect. Finally I obtain a necessary and sufficient condition for one rhombic Earle slice and one rectangular Earle slice to intersect each other.

Besides, I show that for any Earle slice, there exists a unique Earle slice of different kind that intersects it. And for any rhombic Earle slice, there exist exactly four distinct rhombic Earle slices that intersect it. As a consequence, the union of all Earle slices is connected in quasi-Fuchsian space.

In the end, I describe Earle slices using trace coordinates of quasi-Fuchsian space.