ABSTRACT

GROUPS GENERATED BY LIMIT ROTATIONS AND QUOTIENT SURFACES

Eren GÜMÜŞALAN

M.Sc. Thesis, Department of Mathematics Supervisor: Assist. Prof. Dr. Adnan MELEKOĞLU 2012, 35 pages

The purpose of this study, which consists of four chapters, is to investigate the quotient surfaces of the groups generated by limit rotations in the hyperbolic plane.

The first chapter is devoted to the introduction.

The second chapter is devoted to the background material.

In the third chapter, hyperbolic geometry has been shortly introduced.

In the fourth chapter, first limit rotations have been introduced. Then the groups generated by limit rotations and some topological and geometrical properties of their quotient surfaces have been investigated.

Key words: Hyperbolic geometry, Hyperbolic plane, Isometry group, Limit rotation, Quotient surface.