

## Abstract

A doodle is a collection of piecewise-linear closed curves without triple intersections on a closed oriented surface. Two doodles are equivalent if there exists a homotopy from collection of curves representing one to the collection of curves representing other without creating triple points. Theory of doodles resembles theory of classical links. There is a group called the fundamental group of doodle associated with a doodle on a closed oriented surface. The fundamental group of a doodle resembles the fundamental group of a link complement. There is an associated group called twin group which plays the role that the braid group plays for classical links.

This MS thesis is an exposition of the paper of Mikhail Khovanov on Doodle Groups. We compute fundamental groups of some doodles and find some abelian subgroups of doodle groups. We construct examples of doodles on the 2-sphere whose fundamental groups have non-trivial center. Also, for some special types of doodles, we prove that their fundamental groups are automatic.