

# COMMUTATOR SUBGROUPS OF SOME GENERALIZED BRAID GROUPS

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## ABSTRACT OF THE THESIS

Commutator subgroups of Artin's braid groups  $B_n$  are well studied by Gorin and Lin in their 1969 paper, where they obtained finite presentation for  $B'_n$  for each  $n$ . Later, in 1993, Savushkina gave a simpler presentation for  $B'_n$ .

The goal of this thesis is to understand the structure of the commutator subgroups of some of the generalizations of Artin's braid groups  $B_n$ , namely the welded braid groups  $WB_n$ , the generalized virtual braid groups  $GVB_n$ , the flat welded braid groups  $FWB_n$ , the flat virtual braid groups  $FVB_n$ , and the twin groups  $TW_n$ . As consequences of the above investigations we prove several algebraic and geometric properties of the above groups.

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