On Geometry of Central Extension of Klein Bottle Group

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In this work I give a complete description of the language of geodesic words for the central extension of the Klein Bottle group with respect to the standard two-element generating set. I created construction to study groups with Cayley complex as non-orientable surface. More precisely, I completely describe geodesic words via description of infinite geodesics and prove that in the group there is no dead end elements. Finally, I create new sufficient condition for the absence of dead end elements in a group with respect to fixed generating set.

Awards Won:

Fourth Award of $500

American Mathematical Society: Certificate of Honorable Mention