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ON THE AUTOTOPISM GROUP OF THE CORDERO-FIGUEROA SEMIFIELD OF ORDER 3^6

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Abstract

In [5] M. Biliotti, V. Jha and N. Johnson were able to completely determine the autotopism group of a generalized twisted field as a subgroup of $\Gamma L(K) \times \Gamma L(K)$, where $K = GF(p^n)$ and $\Gamma L(K)$ is the group of non-singular semilinear transformations over K. In this article, we consider the Cordero-Figueroa semifield of order 3^6, which is not a generalized twisted field, and we prove that its autotopism group is isomorphic to a subgroup of $\Gamma L(K) \times \Gamma L(K)$, where $K = GF(3^6)$.

Keywords: finite presemifield, finite semifield, autotopism, autotopism group.

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