Covering Groups of Rank 1 of Elementary Abelian Groups

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Abstract: Covering groups of elementary abelian groups of odd exponent p can be classified according to the rank of their p–th power homomorphisms, which may be regarded as linear transformations of $\mathbb{F}_p$–vector spaces. This paper contains a description of the isomorphism types and the automorphism groups of those covering groups in which this rank is 1. Analogous considerations of elementary abelian 2–groups and their covering groups are included in the final section.