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Odd order semidirect extensions of commutative automorphic loops

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Abstract: We analyze semidirect extensions of middle nuclei of commutative automorphic loops. We find a less complicated conditions for the semidirect construction when the middle nucleus is an odd order abelian group. We then use the description to study extensions of orders 3 and 5.

Keywords: automorphic loop; semidirect product; middle nucleus; cyclic group

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