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Title:	Automorphism groups of quandles arising from groups
Authors:	Dey, Pinka (/jspui/browse?type=author&value=Dey%2C+Pinka) Singh, Mahender (/jspui/browse?type=author&value=Singh%2C+Mahender)
Keywords:	abelian group Takasaki quandle of G. acts doubly transitively on Alex(G,φ)
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Abstract:	Let G be a group and $\varphi \in \mathrm{Aut}(G)$. Then the set G equipped with the binary operation $a*b = \varphi(ab-1)b$ gives a quandle structure on G, denoted by Alex(G,φ), and called the generalised Alexander quandle of G with respect to φ. When G is an additive abelian group and $\varphi = -\mathrm{id}_G$, then Alex(G,φ) is the well-known Takasaki quandle of G. In this paper, we determine the group of automorphisms and inner automorphisms of Takasaki quandles of abelian groups with no 2-torsion, and Alexander quandles of finite abelian groups with respect to fixed-point free automorphisms. As an application, we prove that if $G \cong (\mathbb{Z}/p\mathbb{Z})n$ and φ is multiplication by a non-trivial unit of $\mathbb{Z}/p\mathbb{Z}$, then Aut(Alex(G,φ)) acts doubly transitively on Alex(G,φ). This generalises a recent result of Ferman et al. (J Knot Theory Ramifications 20:463–468, 2011) for quandles of prime order.
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