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Title:	Distal Actions of Automorphisms of Lie Groups G on $\text{Sub}G$
Authors:	Yadav, Alok Kumar (/jspui/browse?type=author&value=Yadav%2C+Alok+Kumar)
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Abstract:	For a locally compact metrisable group G , we study the action of $\text{Aut}(G)$ on $\text{Sub}G$, the set of closed subgroups of G endowed with the Chabauty topology. Given an automorphism T of G , we relate the distality of the T -action on $\text{Sub}G$ with that of the T -action on G under a certain condition. If G is a connected Lie group, we characterise the distality of the T -action on $\text{Sub}G$ in terms of compactness of the closed subgroup generated by T in $\text{Aut}(G)$ under certain conditions on the center of G or on T as follows: G has no compact central subgroup of positive dimension or T is unipotent or T is contained in the connected component of the identity in $\text{Aut}(G)$. Moreover, we also show that a connected Lie group G acts distally on $\text{Sub}G$ if and only if G is either compact or it is isomorphic to a direct product of a compact group and a vector group. All the results on the Lie groups mentioned above hold for the action on $\text{Sub}_a G$, a subset of $\text{Sub}G$ consisting of closed abelian subgroups of G .
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