Mathematics > Group Theory

The space of bi-invariant orders on a nilpotent group

Dave Witte Morris

(Submitted on 2 Apr 2012 (v1), last revised 16 Apr 2012 (this version, v2))

We prove a few basic facts about the space of bi-invariant (or left-invariant) total order relations on a torsion-free, nonabelian, nilpotent group G. For instance, we show that the space of bi-invariant orders has no isolated points (so it is a Cantor set if G is countable), and give examples to show that the outer automorphism group of G does not always act faithfully on this space. Also, it is not difficult to see that the abstract commensurator group of G has a natural action on the space of left-invariant orders, and we show that this action is faithful. These results are related to recent work of T.Koberda that shows the automorphism group of G acts faithfully on this space.

Comments:	13 pages, no figures. Final version that appeared in New York Journal of Mathematics
Subjects:	**Group Theory (math.GR)**
MSC classes:	20F60, 06F15, 20F18
Journal reference:	New York Journal of Mathematics 18 (2012) 261-273
Cite as:	**arXiv:1204.0454 [math.GR]**
	(or **arXiv:1204.0454v2 [math.GR]** for this version)

Submission history

From: Dave Witte Morris [view email]
[v1] Mon, 2 Apr 2012 16:24:54 GMT (29kb)
[v2] Mon, 16 Apr 2012 16:38:30 GMT (29kb)

Which authors of this paper are endorsers?