

**Reilly, Norman R.**

**Nilpotent, weakly Abelian and Hamiltonian lattice ordered groups.** (English) Zbl 0553.06020  
Czech. Math. J. 33(108), 348-353 (1983).

Let  $\mathcal{C}$  be the variety of lattice ordered groups defined by the law  $[x, x^y] = 1$  and let  $\mathcal{W}$  be the weakly abelian variety defined by  $(x \vee 1)^y \leq (x \vee 1)^2$ . Let  $\mathcal{H}$  be the class of all lattice ordered groups for which each convex  $\ell$ -subgroup is normal - this Hamiltonian class is not a variety. For a variety  $\mathcal{V}$  of  $\ell$ -groups it is shown that  $\mathcal{V} = \mathcal{W}$  iff  $\mathcal{V} \leq \mathcal{H}$ , so  $\mathcal{W}$  is the largest variety of Hamiltonian  $\ell$ -groups. Each nilpotent  $\ell$ -group belongs to  $\mathcal{W}$ . If  $G$  is an  $\circ$ -group with only a finite number of regular subgroups and  $G \in \mathcal{W}$  then  $G$  is nilpotent. The variety  $\mathcal{C}$  is the variety of nilpotent groups of class at most two.

Reviewer: P.F.Conrad

**MSC:**

**06F15** Ordered groups  
**20F60** Ordered groups (group-theoretic aspects)  
**20E10** Quasivarieties and varieties of groups

Cited in **5** Documents

**Keywords:**

variety of lattice ordered groups; weakly abelian variety; convex  $\ell$ -subgroup; Hamiltonian class; variety of Hamiltonian  $\ell$ -groups; nilpotent  $\ell$ -group; regular subgroups; variety of nilpotent groups

**Full Text:** [EuDML](#)

**References:**

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- [2] Hollister H. A.: Nilpotent  $\setminus(l\setminus)$ -groups are representable. Algebra Universalis, 8 (1978) No. 1, 65-71. · [Zbl 0385.06024](#) · [doi:10.1007/BF02485371](https://doi.org/10.1007/BF02485371)
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