

**Rhemtulla, Akbar; Smith, Howard**

**On solvable  $R^*$  groups of finite rank.** (English) Zbl 1031.20025  
*Commun. Algebra* 31, No. 7, 3287-3293 (2003).

Let  $G$  be a group,  $a \in G$  and  $S(a)$  be the semigroup generated by all conjugates of  $a$  in  $G$ . It is proved that if  $G$  is a solvable group of finite rank and  $1 \notin S(a)$  for all  $1 \neq a \in G$ , then  $\langle a^G \rangle / \langle b^G \rangle$  is a periodic group for every  $b \in S(a)$ . Conversely, if every two generator subgroup of a finitely generated torsion-free solvable group  $G$  has this property then  $G$  has finite rank, and if every finitely generated subgroup has this property then every partial order on  $G$  can be extended to a linear order.

Reviewer: [Nikolai Yakovlevich Medvedev \(Barnaul\)](#)

**MSC:**

[20F16](#) Solvable groups, supersolvable groups  
[20F60](#) Ordered groups (group-theoretic aspects)  
[06F15](#) Ordered groups

Cited in 1 Document

**Keywords:**

solvable groups of finite rank; orderable groups; partial orders; linear orders; finitely generated subgroups

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

**References:**

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