

## Some countably recognizable classes of groups

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### ABSTRACT

Let  $\mathfrak{X}$  be a class of groups. Then  $\mathbf{L}_{\aleph_0}\mathfrak{X}$  is the class of groups  $G$  such that every countable subset of  $G$  is contained in an  $\mathfrak{X}$ -subgroup of  $G$ . We say that  $\mathfrak{X}$  is *countably recognizable* provided  $\mathbf{L}_{\aleph_0}\mathfrak{X} = \mathfrak{X}$ . When  $\mathfrak{X}$  is subgroup closed this is equivalent to saying that  $G \in \mathfrak{X}$  whenever every countable subgroup of  $G$  is in  $\mathfrak{X}$ . In this talk I'll discuss some recent results concerning the class  $\mathfrak{S}\mathfrak{R}$ , where  $\mathfrak{S}$  is the class of soluble groups and  $\mathfrak{R}$  is the class of groups of finite rank. The main result is that this class of groups is countably recognizable. This represents recent joint work with Martin Evans and Howard Smith.

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