

1112-03-295

Meng-Che Ho* (ho@math.wisc.edu), 480 Lincoln Drive, Madison, WI 53706. *Describing Groups.*

Recall that the index set of a computable structure is the set of indices for its computable copies. The calculation of the complexity of index set usually involves finding an optimal Scott sentence (a sentence in $L_{\omega_1, \omega}$ that describes the structure up to isomorphism.) J. Knight and et al. determined the complexity of index sets of various structures.

In this talk, we focus on finding the complexity of index sets of various groups, generalizing methods that was previously used by J. Knight and et al. We found computable Scott sentences for various different groups or class of groups, including nilpotent groups, polycyclic groups, and the lamplighter group. In some of these cases, we also showed that the sentence we had are optimal. (Received August 07, 2015)