Effective Categoricity of Abelian $p$-Groups

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Abstract

We investigate effective categoricity of computable Abelian $p$-groups $A$. We prove that all computably categorical Abelian $p$-groups are relatively computably categorical, that is, have computably enumerable Scott families of existential formulas. We investigate which computable Abelian $p$-groups are $\Delta^0_2$ categorical and relatively $\Delta^0_2$ categorical.