

Mal'cev algebras and difference clonoids

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Abstract

While Mal'cev algebras are often considered to be among the most tame structures in universal algebra, surprisingly many basic questions about them still remain open: When ordered by term equivalence, can there be an infinite anti-chain of Mal'cev algebras on a finite set? Which Mal'cev algebras have finite equational bases? Is the subpower membership problem for finite Mal'cev algebras always solvable in polynomial time? In this talk, I would like to introduce the difference clonoid as a tool that can be useful to discuss these questions, in particular, in the setting of nilpotent algebras.