Szegedi Tudományegyetem Bolyai Intézet
Algebra és Számelmélet Tanszéke
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" Some conditions on Mal'cev algebras that force a polynomial group operation "

Abstract:

The class of expanded groups is an important subclass of Mal'cev algebras. The question is what conditions on a Mal'cev algebra imply that it is polynomially equivalent to an expanded group. Here, we call two algebras polynomially equivalent if they have the same domain and the same set of polynomial functions. We analyze two conditions: uniformity and 2-supernilpotency. In the first case we obtain that almost all finite uniform Mal'cev algebras with congruence lattice of height at most two are polynomially equivalent ot an expanded group. In the second case we obtain a Gumm type result for 2-supernilpotent Mal'cev algebras.