On nilpotency of generalized almost-jordan right-nilalgebras

Arenas, Manuel

Labra, Alicia

We study the variety of algebras A over a field of characteristic ? 2, 3, 5 satisfying the identities xy=yx and ? ((xx)y)x-((yx)x)x + ? ((xx)x)y-((yx)x)x=0, where ?, ? are scalars. We do not assume power-associativity. We prove that if A admits a non-degenerate trace form, then A is a Jordan algebra. We also prove that if A is finite-dimensional and solvable, then it is nilpotent. We find three conditions, any of which implies that a finite-dimensional right-nilalgebra A is nilpotent.