On speciality of binary-Lie algebras

Arenas, Manuel

Shestakov, Ivan

In the present work, binary-Lie, assocyclic, and binary (-1,1) algebras are studied. We prove that, for every assocyclic algebra A, the algebra A - is binary-Lie. We find a simple non-Malcev binary-Lie superalgebra T that cannot be embedded in A-s for an assocyclic superalgebra A. We use the Grassmann envelope of T to prove the similar result for algebras. This solve negatively a problem by Filippov (see [1, Problem 2.108]). Finally, we prove that the superalgebra T is isomorphic to the commutator superalgebra A-s for a simple binary (-1,1) superalgebra A. © 2011 World Scientific Publishing Company.