Determining graded-simple algebras by their graded polynomial identities

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An interesting question is if the polynomial identities of an algebra can uniquely determine it, up to an isomorphism. This topic, and its graded version, was addressed by several authors. In general, the answer is no, but under some restrictions we obtain positive answers. In this talk, we shall prove that finite-dimensional graded-simple algebras over an algebraically closed field are uniquely determined by their graded polynomial identities. The proof relies on Razmyslov's theory on the same problem in the context of prime Ω-algebras (1989). This is a joint work with Yuri Bahturin (Memorial University of Newfoundland, Canada).