Locally defined algebras and their automorphisms

Jonathan Hall

Commutative, associative, and Lie algebras are defined locally in the sense that the identities that characterize them can be checked in subalgebras generated by a small number of elements. Theorems like that of Sakuma characterizing subalgebras of Griess algebras generated by two Ising vectors suggest that we consider algebras presented in terms of certain finitely generated subalgebras. We can then consider the circumstances under which these algebras or their quotients have global properties, such as large automorphism groups and invariant forms.

Michigan State University, USA