

Fields Institute Workshop Jordan Algebras and Related Fields
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The local algebras of Lie algebras

This is a report on joint work with Antonio Fernandez Lopez and Miguel Gomez Lozano. Given a Lie algebra L , for any ad-nilpotent element $x \in L$ of index of nilpotence ≤ 3 we build a new algebra L_x , which is a Jordan algebra and has a behaviour similar to that of the local algebra of a Jordan system at an element. This new algebra L_x inherits nice properties from L and keeps relevant information about the element x .