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Gradings on exceptional simple Jordan systems and structurable algebras

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This talk is about some generalities of group gradings on structurable algebras and Kantor systems. We explain how these gradings can be used to construct gradings on the associated Lie algebra given by the Kantor construction.

Some results of classification of equivalence classes of fine gradings by abelian groups are given for exceptional simple Jordan pairs and triple systems (the ones of types bi-Cayley and Albert). Also, an example of fine \mathbb{Z}_4^3 -grading on the Brown algebra (a 56-dimensional simple structurable algebra) is given. We explain how some of these gradings can be used to construct fine gradings on some exceptional simple Lie algebras.

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