

cases	doc_1		doc_2		decision	id
	authors	<ul style="list-style-type: none">Laurent Manivel			DUPLICATES	903
	title	Configurations of lines and models of Lie algebras	authors	<ul style="list-style-type: none">Manivel, Laurent		
	publication_date	2005-07-06 12:24:41+00:00	title	Configurations of lines and models of Lie algebras		
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	urls	<ul style="list-style-type: none">http://arxiv.org/pdf/math/0507118v1http://arxiv.org/abs/math/0507118v1http://arxiv.org/pdf/math/0507118v1	doi	10.1016/j.jalgebra.2006.04.029		
	id	id-5693478141935801408	urls	<ul style="list-style-type: none">http://arxiv.org/abs/math/0507118		
	abstract	The automorphism groups of the 27 lines on the smooth cubic surface or the 28 bitangents to the general quartic plane curve are well-known to be closely related to the Weyl groups of E_6 and E_7 . We show how classical subconfigurations of lines, such as double-sixes, triple systems or Steiner sets, are easily constructed from certain models of the exceptional Lie algebras. For $\frac{e}{7}$ and $\frac{e}{8}$ we are lead to beautiful models graded over the octonions, which display these algebras as plane projective geometries of subalgebras. We also interpret the group of the bitangents as a group of transformations of the triangles in the Fano plane, and show how this allows to realize the isomorphism $\mathrm{PSL}(3, \mathbb{F}_2) \simeq \mathrm{PSL}(2, \mathbb{F}_7)$ in terms of harmonic cubes.	id	id-7919433715303589922		
	versions		abstract	The automorphism groups of the 27 lines on the smooth cubic surface or the 28 bitangents to the general quartic plane curve are well-known to be closely related to the Weyl groups of E_6 and E_7 . We show how classical subconfigurations of lines, such as double-sixes, triple systems or Steiner sets, are easily constructed from certain models of the exceptional Lie algebras. For $\frac{e}{7}$ and $\frac{e}{8}$ we are lead to beautiful models graded over the octonions, which display these algebras as plane projective geometries of subalgebras. We also interpret the group of the bitangents as a group of transformations of the triangles in the Fano plane, and show how this allows to realize the isomorphism $\mathrm{PSL}(3, \mathbb{F}_2) \simeq \mathrm{PSL}(2, \mathbb{F}_7)$ in terms of harmonic cubes.		
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