

cases	doc_1		doc_2		decision	id
			authors	<ul style="list-style-type: none"><li>Laurent Manivel</li></ul>	DUPLICATES	897
	title	Configurations of lines and models of Lie algebras	title	Configurations of lines and models of Lie algebras		
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	doi	10.1016/j.jalgebra.2006.04.029	doi			
	urls	<ul style="list-style-type: none"><li>https://web.archive.org/web/20190417015936/https://core.ac.uk/download/pdf/81999529.pdf</li></ul>	urls	<ul style="list-style-type: none"><li>http://arxiv.org/pdf/math/0507118v1</li><li>http://arxiv.org/abs/math/0507118v1</li><li>http://arxiv.org/pdf/math/0507118v1</li></ul>		
	id	id-9200781509194487460	id	id-5693478141935801408		
	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 $e_7$ and $e_8$ 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 $\mathrm{PSL}(3, \mathbb{F}_2) \cong \mathrm{PSL}(2, \mathbb{F}_7)$ in terms of harmonic cubes.	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 $\mathfrak{e}_7$ and $\mathfrak{e}_8$ 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 $\mathrm{PSL}(3, \mathbb{F}_2) \cong \mathrm{PSL}(2, \mathbb{F}_7)$ in terms of harmonic cubes.		
	versions		versions			