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Exceptional groups of relative rank one and Galois involutions of Tits quadrangles. (English)
Zbl 07264018

Summary: We show that every Moufang set associated with one of the Tits indices $2E_6^{29}, E_7^{48}, E_8^{31}$ or $F_4^{21}$ in arbitrary characteristic can be obtained as the fixed point building of a Galois involution acting on a Tits quadrangle parametrized by a quadrangular algebra. This result is used to calculate an explicit formula for the structure map of an arbitrary Moufang set in this class.

MSC:
20E42 Groups with a $BN$-pair; buildings
51E12 Generalized quadrangles and generalized polygons in finite geometry
51E24 Buildings and the geometry of diagrams

Keywords:
building; Moufang set; Tits polygon; exceptional group

Full Text: DOI