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A generating theorem of simple even triangulations with a finitizable set of reductions.
(English) Zbl 1372.51001

Summary: We determine exactly two \((P, Q)\)-irreducible even triangulations of the projective plane. This result is a new generating theorem of even triangulations of the projective plane, that is, every even triangulation of the projective plane can be obtained from one of those two \((P, Q)\)-irreducible even triangulations by a sequence of two expansions called a \(P\)-expansion and a \(Q\)-expansion, which were used in \cite{Batagelj1984, Drapal2010}.

Furthermore, we prove that for any closed surface \(F^2\) there are finitely many \((P, Q)\)-irreducible even triangulations of \(F^2\).

MSC:
51A05 General theory of linear incidence geometry and projective geometries
05C10 Planar graphs; geometric and topological aspects of graph theory
05C30 Enumeration in graph theory
05C60 Isomorphism problems in graph theory (reconstruction conjecture, etc.) and homomorphisms (subgraph embedding, etc.)
05C07 Vertex degrees
05C38 Paths and cycles

Keywords:
even triangulation; generating theorem

Full Text: DOI

References:


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