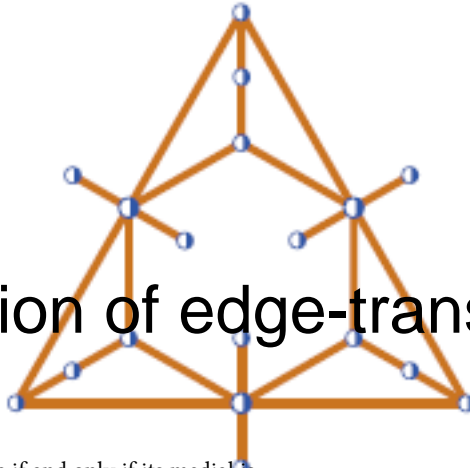


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Classification of edge-transitive maps



Content :

An orientable map is edge-transitive if and only if its medial is a vertex-transitive map. Applying the techniques of classification and construction of vertex-transitive maps we obtain a classification of edge-transitive maps.

Since the orientation-preserving automorphism group is of index at most two in the automorphism group of a map we know, that the quotient of the medial map has at most two vertices. The lifting technique can be used for the construction. Orientation-preserving automorphisms of an edge-transitive map are *face colour-preserving*, i. e. they cannot act as a duality in the medial map. The number of possible quotient maps significantly decreases, in particular there are just six quotient maps to consider. These gives rise to *six* infinite families of edge-transitive maps. Using techniques of voltage assignments we can reconstruct all edge-transitive maps of given genus or up to given number of edges.

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