Imprimitivity of locally finite 1-ended planar graphs

Jozef Širáň

with Mark E. Watkins

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Theorem [Watkins and Graver 2004] An infinite, locally finite, planar graph Γ has a primitive automorphism group if and only if, for some integer $m \ge 2$, every vertex of Γ is incident with exactly m maximal 2-connected subgraphs Λ and with no separating edge, and either all the Λ 's are K_4 or all are circuits of length p for some fixed odd prime p.

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We will outline a concise proof of the imprimitivity in the 1-ended case.

Want: Let Γ be an infinite, locally finite, 1-ended planar graph, and let $Aut(\Gamma)$ be transitive on the vertex set of Γ . Then $Aut(\Gamma)$ is imprimitive.

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