

Arc-transitive graphs of valency twice a prime admit a semiregular automorphism*

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Abstract

We prove that every finite arc-transitive graph of valency twice a prime admits a non-trivial semiregular automorphism, that is, a non-identity automorphism whose cycles all have the same length. This is a special case of the Polycirculant Conjecture, which states that all finite vertex-transitive digraphs admit such automorphisms.

Keywords: Arc-transitive graphs, polycirculant conjecture, semiregular automorphism.

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Ločno tranzitivni grafi stopnje dvakratnika praštevila dopuščajo semiregularen avtomorfizem*

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Povzetek

V članku dokažemo, da vsak končen ločno tranzitiven graf stopnje dvakratnika praštevila dopušča netrivialen semiregularen avtomorfizem, to je neidentičen avtomorfizem, katerega cikli imajo vsi enako dolžino. Gre za poseben primer policirkulantne domneve, po kateri vsi končni vozliščno tranzitivni digrafi dopuščajo tak avtomorfizem.

Ključne besede: Ločno tranzitivni grafi, policirkulantna domneva, semiregularni avtomorfizem.

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