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Arc-transitive graphs of valency 8 have a semiregular automorphism

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Abstract: One version of the polycirculant conjecture states that every vertex-transitive graph has a non-identity semiregular automorphism that is, a non-identity automorphism whose cycles all have the same length. We give a proof of the conjecture in the arc-transitive case for graphs of valency 8, which was the smallest open valency.

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

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Ločno-tranzitivni grafi stopnje 8 imajo polregularen avtomorfizem

Povzetek: Ena od verzij policirkulantne domneve pravi, da ima vsak vozliščno-tranzitiven graf ne-identičen polregularen avtomorfizem, t. j. ne-identičen avtomorfizem, katerega cikli imajo vsi isto dolžino. To domnevo dokažemo za ločno-tranzitivne grafe stopnje 8, kar je bila doslej najmanjša stopnja, za katero domneva še ni potrjena.

Ključne besede: Ločno-tranzitivni grafi, policirkulantna domneva, polregularni avtomorfizem.