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4-valent graphs of order $6p^2$ admitting a group of automorphisms acting regularly on arcs

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Abstract

In this paper we classify the 4-valent graphs having $6p^2$ vertices, with p a prime, admitting a group of automorphisms acting regularly on arcs. As a corollary, we obtain the 4-valent one-regular graphs having $6p^2$ vertices.

Keywords: One-regular graphs, 4-valent, Cayley graphs.

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4-valentni grafi reda $6p^2$, ki dopuščajo grupo avtomorfizmov, ki deluje regularno na lokih

Povzetek

V tem članku klasificiramo 4-valentne grafe s $6p^2$ vozlišči, kjer je p praštevilo, dopuščajoče grupo avtomorfizmov, ki delujejo regularno na lokih. Od tod dobimo 4-valentne eno-regularne grafe s $6p^2$ vozlišči.

Ključne besede: Eno-regularni grafi, 4-valenten, Cayleyevi grafi.