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Quasi *m*-Cayley circulants

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Abstract

A graph Γ is called a *quasi m-Cayley graph on a group G* if there exists a vertex $\infty \in V(\Gamma)$ and a subgroup G of the vertex stabilizer $\mathrm{Aut}(\Gamma)_\infty$ of the vertex ∞ in the full automorphism group $\mathrm{Aut}(\Gamma)$ of Γ, such that G acts semiregularly on $V(\Gamma) \setminus \{\infty\}$ with m orbits. If the vertex ∞ is adjacent to only one orbit of G on $V(\Gamma) \setminus \{\infty\}$, then Γ is called a *strongly quasi m-Cayley graph on G*. In this paper complete classifications of quasi 2-Cayley, quasi 3-Cayley and strongly quasi 4-Cayley connected circulants are given.

Keywords: Arc-transitive, circulant, quasi m-Cayley graph.

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Kvazi *m*-Cayleyevi cirkulanti

Povzetek

Grafu Γ rečemo *kvazi m-Cayleyjev graf na grupi G*, če obstaja vozlišče $\infty \in V(\Gamma)$ in podgrupa G stabilizatorja $\mathrm{Aut}(\Gamma)_\infty$ vozlišča ∞ v grupi avtomorfizmovAut(Γ) grafa Γ, tako da G deluje polregularno na $V(\Gamma) \setminus \{\infty\}$ z m orbitami. Če je vozlišče ∞ povezano s samo eno orbito grupe G na $V(\Gamma) \setminus \{\infty\}$, potem je Γ *krepko kvazi m-Cayleyjev graf na G*. V članku klasificiramo kvazi 2-Cayleyjeve, kvazi 3-Cayleyjeve in krepko kvazi 4-Cayleyjeve povezane cirkulante

Ključne besede: Ločno-tranzitiven, cirkulant, kvazi *m*-Cayleyev graf.