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# On the Stabilizer of the Automorphism Group of a 4-valent Vertex-transitive Graph with Odd-prime-power Order

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摘要    Let X be a 4-valent connected vertex-transitive graph with odd-prime-power order $p \sim k$ ($k \geq 1$), and let A be the full automorphism group of X. In this paper, we prove that the stabilizer $A_v$ of a vertex v in A is a 2-group if $p \neq 5$, or a {2,3}-group if $p = 5$. Furthermore, if $p = 5$ $|A_v|$ is not divisible by $3 \sim 2$. As a result, we show that any 4-valent connected vertex-transitive graph with odd-prime-power order $p \sim k$ ($k \geq 1$) is at most 1-arc-transitive for $p \neq 5$ and 2-arc-transitive for $p = 5$.

关键词    cayley graphs   s   -arc-transitive   vertex-transitive
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