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**AUTOMORPHISMS OF A DISTANCE-REGULAR GRAPH
WITH INTERSECTION ARRAY $\{35, 32, 28; 1, 4, 8\}$** **M. P Golubyatnikov**

We continue the study of automorphisms of distance-regular locally cyclic graphs with at most 4096 vertices (the intersection arrays of such graphs were found earlier by A. A. Makhnev and M. S. Nirova). Let Γ be a distance-regular graph with intersection array $\{35, 32, 28; 1, 4, 8\}$. Then it has eigenvalue $\theta_2 = -1$ and the graph $\bar{\Gamma}_3$ is pseudogeometric for the net $pG_8(35, 8)$ and has parameters $(1296, 315, 90, 72)$. We study possible automorphisms of such graphs. In particular, for a graph Γ with intersection array $\{35, 32, 28; 1, 4, 8\}$ and $G = \text{Aut}(\Gamma)$, it is proved that $\pi(G) \subseteq \{2, 3, 5, 7\}$. Further, if a nonsolvable group $G = \text{Aut}(\Gamma)$ acts transitively on the vertex set of a graph with intersection array $\{35, 32, 28; 1, 4, 8\}$ and \bar{T} is the socle of the group $\bar{G} = G/S(G)$, then $G = S(G)G_a$, $\bar{T}_a \cong A_5$, and $\bar{T}_{a,b} \cong A_4$ for some vertices $a \in \Gamma$ and $b \in [a]$.

Keywords: strongly regular graph, distance-regular graph, graph automorphism.

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