عنوان مقاله:

Conjugate p-elements of full support that generate the wreath product CpCp

محل انتشار:

تعداد صفحات اصل مقاله: 27

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خلاصه مقاله:

For a symmetric group $G := \text{sym} n$ and a conjugacy class X of involutions in G, it is known that if the class of involutions does not have a unique fixed point, then - with a few small exceptions - given two elements $a, x \in X$, either $\langle a, x \rangle$ is isomorphic to the dihedral group $D\lambda$, or there is a further element $y \in X$ such that $\langle a, y \rangle \cong \langle x, y \rangle \cong D\lambda$ (P. Rowley and D. Ward, On π-Product Involution Graphs in Symmetric Groups. MIMS ePrint, ۲۰۱۴). One natural generalisation of this to p-elements is to consider when two conjugate p-elements generate a wreath product of two cyclic groups of order p. In this paper we give necessary and sufficient conditions for this in the case that our p-elements have full support. These conditions relate to given matrices that are of circulant or permutation type, and corresponding polynomials that represent these matrices. We also consider the case that the elements do not have full support, and see why generalising our results to such elements would not be a natural generalisation.

کلمات کلیدی:

circulant matrix, cyclic group, wreath product

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