

## Permutation groups with the same movement

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### ABSTRACT.

Let  $G$  be a permutation group on a set  $\Omega$  with no fixed point in  $\Omega$ . If for each subset  $\Gamma$  of  $\Omega$  the size  $|\Gamma^g \setminus \Gamma|$  is bounded, for  $g \in G$ , we define the movement of  $g$  as the  $\max|\Gamma^g \setminus \Gamma|$  over all subsets  $\Gamma$  of  $\Omega$ , and the movement of  $G$  is defined as the maximum of  $\text{move}(g)$  over all non-identity elements of  $g \in G$ . In this paper we classify all permutation groups with maximum possible degree in which every non-identity element has the same movement.

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