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Base Size Sets and Determining Sets.

The determining number or fixing number of a graph Γ is the smallest size of a subset of vertices S of Γ such that any automorphism of Γ that stabilizes S stabilizes all of Γ . The determining set $d(G)$ of a finite group G is the set of all determining numbers of all finite graphs for which G is the automorphism group.

We can think of the determining set of G as a parameter determined by the faithful actions of G on vertex sets of graphs. In this talk we compare this set to the base size set $b(G)$, the same parameter extended to all faithful actions of G on finite sets, where the action is no longer determined by preserving edges of the graph. We find groups G for which these parameters are different. (Received September 20, 2016)