

On character degrees of finite groups and some associated graphs

Nour Alnajjarine

Sabancı University

Let G be a finite group. We define the character degree set of G , $cd(G)$, to be the set of all character degrees of G , that is, $\{\chi(1) : \chi \in Irr(G)\}$, where $Irr(G)$ is the set of all complex irreducible characters of G .

While studying the character degree set of a finite group G , it is useful to attach some graph structure on $cd(G)$. In this talk, we introduce some strongly related undirected graphs associated with $cd(G)$ and present some interesting results that reflect the strong interplay between the combinatorial properties of these graphs and the structure of G .