

Various graphs defined on finite groups

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Abstract: Over the last 50 years mathematicians have defined many graphs on finite groups. In this talk we shall discuss about the graphs arising from commutativity. In particular, we shall discuss various results on commuting graph, nilpotent graph, solvable graph of finite groups and their complements and various generalizations. We shall also consider commuting/ nilpotent/ solvable conjugacy class graphs of groups and finally we shall consider super graphs on finite groups, a notion introduced together with G. Arunkumar, P. J. Cameron and L. Selvaganesh in the year 2022. Among other results we shall discuss connections of these graphs with commuting probability of a finite group and its generalizations.