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On prime character degree graphs occurring within a family of graphs. (English)
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Summary: In this article, we investigate families of connected graphs which do not contain an odd cycle in their complement. Specifically, we consider graphs formed by two complete graphs connected in a particular way. We determine which of these graphs can or cannot occur as the prime character degree graph of a solvable group. An obvious expansion and generalization can also be considered, of which we make mention.

MSC:
05C75 Structural characterization of families of graphs
05C05 Trees
20D10 Finite solvable groups, theory of formations, Schunck classes, Fitting classes, $\pi$-length, ranks
20C15 Ordinary representations and characters

Keywords:
character degree graphs; families of graphs; solvable groups

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