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On star coloring of degree splitting of tensor product of graphs. (English) [Zbl 07351424]

Summary: A star coloring of a graph $G$ is a proper vertex coloring which states that every path on four vertices in $G$ is in excess of two dissimilar colors. The star chromatic number $\chi_s(G)$ of $G$ is the fewest number of colors that require to star color $G$. Let $G = (V, E)$ graph with $V_i$ denote the set of all vertices of degree $i$, the degree splitting graph $DS(G)$ is obtained from $G$ by adding new vertices $w_i$ for each $V_i$ with $|V_i| \geq 2$, and joining $w_i$ with every vertex in $V_i$. In this note, we obtain the star chromatic number of degree splitting of tensor product of path with complete graph, wheel graph, cycle graph, complete bipartite graph and path graph.

MSC:
05C15 Coloring of graphs and hypergraphs
05C75 Structural characterization of families of graphs

Keywords:
star coloring; degree splitting graph; tensor product

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