

Characterization of generalized Petersen graphs that are Kronecker covers

The family of generalized Petersen graphs $G(n, k)$, introduced by Coxeter et al. [4] and named by Mark Watkins (1969), is a family of cubic graphs formed by connecting the vertices of a regular polygon to the corresponding vertices of a star polygon. The Kronecker cover $KC(G)$ of a simple undirected graph G is a special type of bipartite covering graph of G , isomorphic to the direct (tensor) product of G and K_2 .

We characterize all the members of generalized Petersen graphs that are Kronecker covers, and describe the structure of their respective quotients.

We observe that some of such quotients are again generalized Petersen graphs, and describe all such pairs.

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