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DECOMPOSITION OF CERTAIN COMPLETE BIPARTITE GRAPHS INTO PRISMS

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Abstract

Häggkvist [6] proved that every 3-regular bipartite graph of order $2n$ with no component isomorphic to the Heawood graph decomposes the complete bipartite graph $K_{6n,6n}$. In [1] Cichacz and Froncek established a necessary and sufficient condition for the existence of a factorization of the complete bipartite graph $K_{n,n}$ into generalized prisms of order $2n$. In [2] and [3] Cichacz, Froncek, and Kovar showed decompositions of $K_{3n/2,3n/2}$ into generalized prisms of order $2n$. In this paper we prove that $K_{6n/5,6n/5}$ is decomposable into prisms of order $2n$ when $n \equiv 0 \pmod{50}$.

Keywords: graph decomposition, bipartite labeling.

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