

Strong Embedding of HP-Graphs on Surface with Higher Genus

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摘要 In 1990, Bondy posed the small circuit double cover (SCDC) conjecture: Every $2k$ -connected graph has a circuit double cover (CDC) with the number of circuits less than $k|V|$ (the order of the vertex set V). The strong embedding conjecture states that every $2k$ -connected graph has a strong embedding on some surface in which the boundary of each face is a circuit. In this paper, HP-graph is defined as the graph which has a strong embedding on the projective plane with one face of valence $k|V|$ and the other faces of valence $2k$. And it is proved that the HP-graph has a strong embedding with $k|V| - 1$ or less faces on some surface, which confirms both the SCDC conjecture and the strong embedding conjecture.

关键词 [CDC](#) [embedding](#) [genus](#) [HP-graph](#) [surface](#)

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Key words [CDC](#) [embedding](#) [genus](#) [HP-graph](#) [surface](#)

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