

ON THE EDGE-HYPER-HAMILTONIAN LACEABILITY OF BALANCED HYPERCUBES

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Abstract

The balanced hypercube BH_n , defined by Wu and Huang, is a variant of the hypercube network Q_n , and has been proved to have better properties than Q_n with the same number of links and processors. For a bipartite graph $G = (V_0 \cup V_1, E)$, we say G is edge-hyper-Hamiltonian laceable if it is Hamiltonian laceable, and for any vertex $v \in V_i, i \in \{0, 1\}$, any edge $e \in E(G - v)$, there is a Hamiltonian path containing e in $G - v$ between any two vertices of V_{1-i} . In this paper, we prove that BH_n is edge-hyper-Hamiltonian laceable.

Keywords: balanced hypercubes, hyper-Hamiltonian laceability, edge-hyper-Hamiltonian laceability.

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