The study of adjacent vertices fault-tolerance bifanability of hypercube with the same color sources

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ABSTRACT

We investigate adjacent vertices fault-tolerance bifanability of hypercube with the same color sources. Let Q_n = (V_b ∪ V_w， E) be the n-dimensional hypercube. Let F_a be the set of fa pairs of adjacently faulty vertices. Let s_1,t^2_1,...,t^{k_1}_1,s_2,t^2_2,....,t^{k_2}_2?kV_i,t^1_1,t^1_2?kV_j be arbitrary fault-free vertices of Q_n for {i， j} = {b， w}. In this paper， we construct the spanning internally disjoint paths P(s_1,t^i_1) and P(s_1,t^j_1) of Q_n ? F_a for f_a ? n ? 3, f_a + k_1 + k_2 = n ? 1, 1 ? i ? k_1,1 ? j ? k_2.

Keywords : hypercube、bifanability、adjacently faulty vertices、fault-tolerance

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