

Abstract

\(P_k\)-factorizations of complete bipartite graph have been studied by several researchers. For even value of \(k\), the spectrum problem is completely solved [6, 7]. Here in this paper we will obtain a feasible network flow of \(P_{2k}\)-factorization of a complete bipartite graph satisfying the conditions of \(P_{2k}\)-factorization. In this paper we construct the disjoint flow paths in \(P_{2k}\)-factorization of complete bipartite graph \(K_{(m,n)}\) (for \(k=1\) and \(2\)). We deduce that \(P_{2k}\)-factorization of complete bipartite graph is helpful in finding the disjoint flow paths in a complete bipartite graph \(K_{(m,n)}\) (\(m=n\)). The result can be generalized for any value of \(k\) with \(m=n\).

References

2. Du B and Wang J: \(P_{(4k-1)}\)-factorization of complete bipartite graphs. Science in China

**Index Terms**

Computer Science  
Applied Mathematics

**Keywords**

Complete bipartite Graph, Factorization of Graph, Network Flow