A characterization of cycle-forced bipartite graphs

Ju Zhou, Kutztown University

A forced cycle \( C \) of a graph \( G \) is a cycle in \( G \) such that \( G - V(C) \) has a unique perfect matching. A graph \( G \) is a cycle-forced graph if every cycle in \( G \) is a forced cycle. In this paper, we characterize the cycle-forced bipartite graphs. For Hamiltonian bipartite graphs, we give a complete characterization. For general bipartite graphs, we give a partial characterization and obtained some useful properties.

Keywords: forced cycle, cycle-forced graph