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**Richard Hammack\*** (rhammack@vcu.edu). *A prime factor theorem for bipartite graphs.*

It has been known for over 40 years that any connected non-bipartite graph factors uniquely into primes over the direct product, and, moreover, that unique factorization can fail for connected bipartite graphs.

But any prime factoring of a connected bipartite graph has exactly one bipartite factor. It has long been suspected that this bipartite factor must be unique (up to isomorphism) among all factorings, but until now this conjecture has withstood proof.

We discuss the context of this result and outline a proof of the conjecture: If a connected bipartite graph  $G$  factors in two ways, as  $G \cong A \times B$  and  $G \cong A' \times B'$ , where  $B$  and  $B'$  are prime and bipartite, then  $B \cong B'$ . (Received August 01, 2013)