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Richard Hammack* (rhammack@vcu.edu), Dept. of Math. and Applied Math., Virginia Commonwealth University, 1001 W. Main St., Richmond, VA 23284 2014. *Minimum cycle bases of direct products of bipartite graphs.*

A basis for the cycle space of a graph is called a *cycle basis*. Among all cycle bases, one using the fewest edges possible is called a *minimum cycle basis*, or MCB. In general there appears to be no clear relationship between an MCB of a direct product of graphs and MCB's of the factors. This paper addresses the case in which the factors are bipartite. Bipartiteness leads to a direct sum decomposition of the product's cycle space that clearly links MCB's of the factors with an MCB of the product. (Received September 26, 2006)