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**Louis DeBiasio\*** (louis@mathpost.asu.edu), Arizona State University, Tempe, AZ 85287, and **Andrzej Czygrinow** and **H. A. Kierstead**. *A degree condition for spanning cycles in bipartite graphs.*

Let  $G = (U, V; E)$  be a bipartite graph on  $2n$  vertices such that  $|U| = n = |V|$  and  $\deg(u) + \deg(v) \geq n + k$  for all  $u \in U$ ,  $v \in V$ . In his work on Hamiltonian bipartite graphs, Amar conjectured that if  $H$  is a set of  $k$  even cycles on a total of  $2n$  vertices, then  $H$  is a subgraph of  $G$ . We prove this conjecture for large  $n$ . Furthermore, we prove that  $H$  is a subgraph of  $G$  even when  $\deg(u) + \deg(v) \geq n + 2$  for all  $u \in U$ ,  $v \in V$ , provided the minimum degree of  $G$  is not too small. (Received September 20, 2009)