Embedding partial bipartite directed cycle systems

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A 2k-dicycle is a 2k-cycle of a directed bipartite graph and a 2k-dicycle system of order (m, n) is a triple (X, Y, D), where D is a collection of edge disjoint 2k-dicycles which partitions the edge set of the complete directed bipartite graph $D_{m,n}$ with parts X and Y. A partial 2k-dicycle system of order (s, t) is a triple (S, T, P), where P is a collection of edge disjoint 2k-dicycles of $D_{s,t}$ which does not necessarily partition the edge set of $D_{s,t}$. The partial 2k-dicycle system (S, T, P) of order (s, t) is said to be embedded in the 2k-dicycle system (X, Y, D) of order (m, n) provided that $S \subseteq X$, $T \subseteq Y$, and $P \subseteq D$. A partial 2k-dicycle system of order (s, t) can always be embedded in a 2k-dicycle system of order (ks, kt).