PETER DANZIGER, Toronto Metropolitan University

A complete solution to the directed Oberwolfach problem of order 2 (mod 4) with cycles of even lengths

The Oberwolfach problem asks for a 2-factorization of the complete graph in which each 2-factor is isomorphic to a specific factor F. Recently, this problem has been extended to directed graphs. In this case, the directed Oberwolfach problem asks for a directed 2-factorization of the complete symmetric digraph in which each directed 2-factor is isomorphic to a specific directed factor F. We consider the directed Oberwolfach problem with directed 2-factors comprised of cycles of even lengths. We provide a complete solution to the case where F is a bipartite 2-factor and the order of the complete symmetric digraph is congruent to 2 modulo 4.