MEHDI AAGHABALI, The University of Edinburgh

Upper bounds on the number of perfect matchings and directed 2-factors in graphs with given number of vertices and edges

We give an upper bound on the number of perfect matchings in simple graphs with a given number of vertices and edges. We apply this result to give an upper bound on the number of 2-factors in a directed complete bipartite balanced graph on $2n$ vertices. The upper bound is sharp for even n. For odd n we state a conjecture on a sharp upper bound