SIBEL OZKAN, Gebze Technical University

On The Hamilton-Waterloo Problem and its Generalizations

A $\{C_m^r, C_n^s\}$-factorization asks for a 2-factorization of K_v (or $K_v - I$), where r of the 2-factors consists of m-cycles and s of the 2-factors consists of n-cycles. This is the Hamilton-Waterloo Problem(the HWP) with uniform cycle sizes m and n. The HWP is an extension of the Oberwolfach problem which asks for isomorphic 2-factors. We will focus on the HWP with uniform cycle sizes; results on the various lengths of cycles as well as some generalizations to multipartite graphs and also having more non-isomorphic 2-factors will be presented.

Results are from the joint works with Keranen, Odabasi, and Ozbay.