
MATEJA SAJNA, University of Ottawa
On the Honeymoon Oberwolfach Problem

The Honeymoon Oberwolfach Problem $\text{HOP}(2m_1, \dots, 2m_t)$ asks whether it is possible to arrange $n = m_1 + \dots + m_t$ couples at a conference at t round tables of sizes $2m_1, \dots, 2m_t$ for $2n - 2$ meals so that each participant sits next to their spouse at every meal, and sits next to every other participant exactly once. A solution to $\text{HOP}(2m_1, \dots, 2m_t)$ is a decomposition of $K_{2n} + (2n - 3)I$ into 2-factors, each consisting of disjoint I -alternating cycles of lengths $2m_1, \dots, 2m_t$. It is also equivalent to a semi-uniform 1-factorization of K_{2n} of type $(2m_1, \dots, 2m_t)$. We present several results, most notably, a complete solution to the case with uniform cycle lengths.