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On bipartite 2-factorisations of $K_n - I$ and the Oberwolfach problem

It is shown that if F_1, F_2, \dots, F_t are bipartite 2-regular graphs of order n and $\alpha_1, \alpha_2, \dots, \alpha_t$ are non-negative integers such that $\alpha_1 + \alpha_2 + \dots + \alpha_t = \frac{n-2}{2}$, $\alpha_1 \geq 3$ is odd, and α_i is even for $i = 2, 3, \dots, t$, then there exists a 2-factorisation of $K_n - I$ in which there are exactly α_i 2-factors isomorphic to F_i for $i = 1, 2, \dots, t$. Taking $t = 1$ this result completes the solution of the Oberwolfach problem for any collection of even sized cycles.

This is joint work with Darryn Bryant, The University of Queensland.