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C. Rubio-Montiel* (christian@matem.unam.mx) and **Gy. Kiss** (kissgy@cs.elte.hu). *On m -factorizations of complete multigraphs and designs.*

The complete multigraph λK_v has v vertices and λ edges joining each pair of vertices. An m -factor of the complete multigraph λK_v is a set of pairwise vertex-disjoint m -regular subgraphs, such that these subgraphs induce a partition of the vertices. An m -factorization of λK_v is a set of pairwise edge-disjoint m -factors such that these m -factors induce a partition of the edges. If the m -factors are pairwise distinct, then it is called *simple*. Furthermore, an m -factorization of λK_v is decomposable if there exist positive integers λ_1 and λ_2 such that $\lambda_1 + \lambda_2 = \lambda$ and λK_v is the union of the m -factorizations $\lambda_1 K_v$ and $\lambda_2 K_v$, otherwise it is called *indecomposable*.

This poster will present simple and indecomposable m -factorizations of λK_v arising from designs for different values of m , λ and v . (Received April 26, 2013)