Resolvable Q_4-systems in Complete and Multipartite Graphs

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The 4-dimensional cube or Q_4 is the graph with vertex set consisting of all binary vectors of length 4 with edges joining pairs of vertices that differ in precisely one coordinate. An H-decomposition of a graph G is a decomposition of the edge set of G into subgraphs isomorphic to the members of H. Such a decomposition is called *resolvable* if it is possible to partition the blocks into classes such that every vertex of G appears in exactly one block of each class. The talk will be based on some results concerning resolvable Q_4-decomposition of λ-fold complete and multipartite graphs.

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