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Partitions of finite vector spaces into subspaces.

Let V be a finite dimensional vector space over a finite field. A subspace partition of V is a collection of subspaces W_1, W_2, \dots, W_k such that

1. each vector u in V belong to some W_i ,
2. W_i and W_j only intersect at the 0-vector for $i \neq j$.

In this talk, we will discuss the existence of subspace partitions and its applications to graph theory. (Received August 05, 2007)