

Abstract

Large sets of t -designs

B. Tayfeh-Rezaie

**School of Mathematics, Institute for Research in Fundamental
Sciences (IPM), Tehran, Iran**

A t - (v, k, λ) design is a collection of k -subsets of a given v -set such that every t -subset of the v -set is exactly contained in λ elements of the collection. A large set of t - (v, k, λ) designs of size N is a partition of all k -subsets of a given v -set into N disjoint t - (v, k, λ) designs, where $N = \binom{v-t}{k-t}/\lambda$. We review the direct and recursive constructions for large sets based on the notion of (N, t) -partitionable sets developed by Ajoodani-Namini, Khosrovshahi and Tayfeh-Rezaie in the last thirty years. We also discuss new directions in the study of large sets in recent years.