

Simple t -designs: recursive construction methods for arbitrary t

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We present recursive methods for constructing simple t -designs for arbitrarily large t . The first method is a composition technique in which a t -design is built up from other smaller ingredient designs. The second method makes use of the concept of s -resolution of the ingredient designs having more flexibility in building blocks of the constructed t -designs. Both constructions are of combinatorial nature as they require finding solutions for a certain set of equalities involving indices of the ingredient designs or suitable sizes of subsets of resolution classes of the ingredient designs. Examples have shown that the methods are fruitful and indeed powerful.

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