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Construction of transitive q-designs

Dean Crnković[1]***, Vedrana Mikulić Crnković***[1]***, Andrea Švob***[1] [deanc@math.uniri.hr]

[1] Department of Mathematics, University of Rijeka, Rijeka, Croatia

The notion of q-analog of designs has been introduced by Delsarte [2]. In 1987, Thomas [4] constructed the first non-trivial q-analog of design with parameters $2\text{-}(n, 3, 7; 2),\ n > 6, n = 6k + 1$ or $n = 6k - 1$. An important result was given in [1], where the authors constructed a design over a finite field with parameters $2\text{-}(13, 3, 1; 2)$ which was the first known example of a Steiner q-design that does not arise from spreads. In this talk we will present a method of constructing transitive q-designs, which is a generalization of the method for constructing transitive designs given in [2].

Keywords
block design, q-design, transitive group

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