

Combinatorial t -designs from special functions

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Abstract A special function is a function either of special form or with a special property. Special functions have interesting applications in coding theory and combinatorial t -designs. The main objective of this talk is to survey t -designs constructed from special functions, including quadratic functions, almost perfect nonlinear functions, almost bent functions, bent functions, bent vectorial functions, and planar functions. These combinatorial designs are not constructed directly from such functions, but come from linear codes which are constructed with such functions. Finally, this talk also surveys linear codes from certain special functions.

Keywords Cyclic code · design · linear code · special function