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*Applications of Quadratic Forms in Coding Theory.*

The theory of quadratic forms in characteristic 2 has many applications in discrete mathematics, particularly in coding theory, design theory and Boolean function theory. Much of this author's work in the area has been under the guidance of Harold Ward. In this talk we will outline several applications and results, some old and some new. Topics include the weight distributions of cyclic codes, classification of spin models arising from SDP designs, and new families of Almost Perfect Nonlinear functions. (Received August 07, 2007)