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*Constructions and bounds on 3-D Optical Orthogonal Codes*

New constructions of 3-dimensional optical orthogonal codes will be presented. In each case, the codes have ideal off-peak autocorrelation 0, and in all but one case cross correlation 1. All codes produced are optimal with respect to the applicable Johnson bound. All codes are constructed by using a particular automorphism of  $PG(k, q)$ , the finite projective geometry of dimension  $k$  over the field of order  $q$ , or by using an affine analogue in  $AG(k, q)$ .