

Construction of some codes based on finite geometries structures

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In this paper we study the construction of these codes from a geometric approach based on points, lines and planes of projective and affine geometries over finite fields and designs. These structures of finite geometry provide a powerful tool for constructing several codes.

We will present some methods of constructing low-density parity control codes based on matrix incidents of finite geometry structures such as designs. We will examine some of techniques of extensions and shortening these codes, optimizing their performance and decoding.