ON SOME PROPERTIES OF BINARY SCHUBERT CODE AND EXTENDED BINARY SCHUBERT CODE

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Abstract: Linear error correcting codes associated to higher dimensional algebraic varieties defined over finite fields have been topical interest. For example codes associated to Hermitian varieties, Grassman varieties, Schubert varieties and Flag varieties have been studied quite extensively. The codes associated to these types of varieties is the central interest. Codes associated with Schubert varieties in $G(2,4)$ over $\mathbb{F}_2$ have been studied in [16]. In this paper we have defined extended binary Schubert Code of the length 19, binary Schubert code of the length 18 and some properties corresponding to these codes.

Keywords and Phrases: Linear Codes, binary Schubert Code, Extended binary Schubert Code.

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1. Introduction

Let q be fixed prime power and l, m with $l \le m$ are positive integers. Let $\mathbb{F}_q$ be the field with q elements and $\mathbb{F}_q^m$ be a m-dimensional linear space over $\mathbb{F}_q$. Let Gaussian binomial coefficient be given by $\begin{bmatrix} m \\ l \end{bmatrix}_q$ and $G(\ell, m)$ denotes the Grassmannian of all ℓ-planes of $\mathbb{F}_q^m$. Due to Plücker mapping the Grassmannian