

Permutation Decoding, Error Patterns, and Hermitian Codes

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Hermitian codes are a well-known family of algebraic geometry codes defined on a Hermitian curve. We consider the one-point Hermitian codes, where we evaluate over the affine $\mathbb{F}_{q^2}$ -rational points on the curve defined by $y^q + y = x^{q+1}$ for a prime power q . Permutation decoding (PD) describes a decoding procedure that uses the automorphism group of a linear code. One challenge with permutation decoding is finding a PD set, or even a partial PD set, for a given code. In this talk, we consider the automorphism group of one-point Hermitian codes, with the goal of describing partial PD sets for certain error patterns.

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