

Error Correcting Codes

Chapter 1

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- Reliable Communication
- Noise
- Single Channel
- Redundancy

Code definitions

Definition

Code symbols or Alphabet is a Σ

We will need structure: Field, vector space, etc.

Definition

A code of block length n over an alphabet Σ is a subset of Σ^n .

$$q \triangleq |\Sigma|.$$

Definition

The dimension of a code $C \subseteq \Sigma^n$ is

$$k \triangleq \log_q |C|$$