

# Construction of optimal codes from linearized polynomials

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## Abstract

Insertion and deletion (in short insdel) codes are designed to deal with synchronization errors in communication channels caused by insertions and deletions of message symbols. Though insdel codes were introduced in 1960s, there are not many constructions of infinite family of insdel codes. We discuss why subspace code is a natural choice for constructing insdel codes and show that the interleaved Gabidulin codes can be used to construct nonlinear insdel codes approaching the Singleton bound. I will give some construction of linear and non-linear optimal insdel codes, i.e., codes attaining the Singleton bound for insdel codes, from rank metric codes and subspace codes constructed using linearized polynomials.

## Keywords

Insertion-deletion codes, Linearized polynomials, Rank metric.

## References

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