



## Erasure correction for network coding over rings

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# Brief Review

- Network coding is based on sending a random linear combination of the received packets;
- It requires less times slots than traditional way (only routing);
- Works over a vector space and a finite field;
- An overhead may appear in the presence of erasures;
- It is possible to minimize the overhead using Gabidulin codes.

# Future Investigations

- What changes when general rings are used instead of a field?
- Is it possible to recover the information without a high complexity?
- What will be the overhead in this case?
- Is it possible, using a Gabidulin code or other similar code, to minimize the overhead?
- Which ring we should use?
- Do these results hold if errors, besides erasure, are allowed in the network?

# Why Rings?

The main motivation of using rings is *physical network coding*.

