

1046-94-854 **Felice Manganiello*** (felice.manganiello@math.uzh.ch), Mathematics Institute, Zurich University, Winterthurerstrasse 190, 8057 Zurich, Switzerland, and **Elisa Gorla** and **Joachim Rosenthal**. *On algebraic constructions of codes for random linear network coding.*

In 2007 Kötter and Kschischang introduced a new framework for random linear network coding. Messages are now encoded in vector spaces and transmitted over the channel via a basis representation. A new metric is also described which relates the distance between vector spaces to the dimension of their intersection. This new framework poses an interesting challenge: investigate possible algebraic constructions of codes of vector spaces.

Starting from the construction of spread codes obtained in collaboration with Elisa Gorla and Joachim Rosenthal, the talk will continue surveying new known constructions of codes over Grassmannians (viewed as collection of fixed dimension vector spaces).

References

- [KK07] R. Koetter and F. Kschischang. Coding for errors and erasures in random network coding. [arXiv.org:cs/0703061](https://arxiv.org/abs/cs/0703061), 2007.
- [MGR08] F. Manganiello, E. Gorla, and J. Rosenthal. Spread codes and spread decoding in network coding. In *Proceedings of the 2008 IEEE International Symposium on Information Theory*, pages 851–855, Toronto, Canada, 2008.

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