

1125-05-1131 **Alberto Ravagnani***, alberto.ravagnani@unine.ch. *Equidistant Subspace Codes*.

A subspace code is a collection of vector spaces of the same dimension over a finite field, with the property that each two spaces intersect in low dimension. Subspace codes were introduced in 2008 by Koetter and Kschischang for error correction in random linear network coding.

Equidistant codes are subspace codes in which each two spaces intersect the same dimension. They were proposed by Etzion and Raviv for distributed storage applications.

We provide an almost complete classification of equidistant codes of large cardinality, showing that for most parameters they are either sunflowers, or the orthogonals of sunflowers. As an application, we prove that optimal equidistant codes have a very simple structure for most choices of the parameters.

We then show how to construct equidistant codes of asymptotically optimal cardinality for all parameters, and how to decode them efficiently.

The new results in the talk are joint work with Elisa Gorla. (Received September 15, 2016)