

1171-05-144

Iwan Duursma* (duursma@illinois.edu) and **Xiao Li**. *Johnson Graph Codes*.

The coordinates of a binary Reed-Muller code of order r and length 2^m naturally correspond to vertices of the Hamming graph $\{0,1\}^m$. The coordinates at distance at most r from any given vertex form an independent set from which all the remaining coordinates in a codeword can be determined uniquely. We define a new class of codes that has the same property with respect to Johnson graphs. By using the codes as inner code in a concatenated code we recover the product matrix construction for minimum storage regenerating codes. By using the codes as outer code in combination with layered codes as inner codes we recover cascade codes for distributed storage. The various technical terms will be explained in the talk. (Received August 09, 2021)