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Arrangement Codes

Let $m \le n$ be positive integers. An *m*-arrangement from an alphabet *X* of size *n* is a permutation of *m* distinct elements from *X*. Regarding them as words, the Hamming distance (as usual) measures the number of disagreeing positions between two *m*-arrangements.

Define an *n*-ary arrangement code of length m and minimum distance d to be a set Γ of *m*-arrangements from an *n*-set such that all pairs of different words in Γ have Hamming distance $\geq d$. Note that when n = m, one recovers (the more familiar) permutation codes.

This talk will survey my preliminary observations on this topic.