

Universal Burst Correction

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In this work, it is shown that under very mild assumptions, practically any binary linear block code of length N and dimension K is able to correct any burst of length up to $N-K$ with probability of success $P_c = 1$ for erasures, and any burst of length up to $N-K-m$ with probability of success $P_c \geq 1 - N^{-m}$ for errors.

In both cases, the decoding is based on identifying a string of zeroes in an extended syndrome corresponding to a particular representation of the parity check matrix of the code and its complexity is $O(N^2)$ binary operations.