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MAXIMUM RANK DISTANCE CODES WITH COMPLEMENTARY DUALS

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Linear code with a complementary dual (an LCD code) is a linear code C whose dual code $C \cap C^\perp = \{0\}$. Much research has been done on the LCD codes for the linear codes with Hamming metric. LCD codes are shown to provide an optimal linear coding solution for the two-user Binary Adder Channel (2-BAC). The nearest neighbor (or maximum likelihood) decoding problem for LCD codes is shown to reduce to the problem; given a word in C^\perp , find the nearest codeword in C .

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