Viterbi decoding was developed by Andrew J. Viterbi in 1967. It is used as a decoding algorithm and BCJR algorithm can be used to decode convolutional codes. If we use an exhaustive search for the optimum code word, the computational complexity increases exponentially. Viterbi decoding is a dominant decoding technique for convolutional codes, and is runtime-programmable to process different code rates. Viterbi decoding for convolutional codes is presented here as an efficient method. A. J. Viterbi, “Error bounds for convolutional codes and an asymptotically optimum decoding algorithm,” IEEE Trans. Inform. Theory, vol. IT-13, pp. 260-269, Apr. 1967. A. J. Viterbi, “Convolutional codes and their performance in communication.”

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Correlative level coding and maximum-likelihood decoding. The maximum-likelihood decoding (MLD) algorithm, which was originally proposed by Viterbi in decoding convolutional codes, is discussed. Asymptotic expressions for the probability of decoding error are obtained for a class of correlative level coding.
