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ANALYZING THE DECODING PERFORMANCE OF RATE ⅓ CONVOLUTIONAL CODE

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ABSTRACT

The idea behind a convolutional code is to make every codeword symbol be the weighted sum of the various input message symbols. In telecommunication, a convolutional code is a type of error-correcting code in which. In this paper we are analyze decoding performance, for different 'K' values and discuss the performance of hard decision decoding and soft decision decoding. We use optimization algorithm to reduce the decoding delay in viterbi decoding approach. So a method is proposed for fast decoding of convolutional codes which reduces decoding delay using particle swarm optimization. In soft decision decoding the performance is improvement of approximately 2db in required signal-to-noise ratio compared to the hard decision decoding.

KEYWORDS: Convolutional Code, Constraint Length, Particle Swarm Optimization, Shannon's Limit, Viterbi Decoding