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Title: Effect of 16 QAM Interleaved Coded Modulation System in AWGN Channel

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Abstract:

In this paper we have simulated the 16 QAM communication systems considering the channel as AWGN and sketch bit error rate of the system versus E_b/N_0 and then applied (15,11,1) BCH code. The above results are being compared with the theoretical performance, we have used MATLAB for all the cases. Due to mobile movement in the channel, the uncoded system affecting Doppler Spread was considered and the bit error rate of the system was drawn for maximum mobile speed of 42.3 Km/Hour. After applying coding we have discussed the above results. At last we have integrated an interleaver for the system to improve the coded performance results and compared the overall performance.