Abstract

In digital communication system, data must encounter in a band limited environment. The fact is that constraining the bandwidth of the transmitted signal necessarily increases the probability of BER at the receiver. The system performance in terms of BER is evaluated with as well as without filter developing digital communication model. The likelihood of BER and SER is compared. The results show that Raised Cosine filter exhibits almost equal performance in comparison with rest of the filters. The worst case scenario is obtained while introducing no filtering technique despite applying the modulation scheme QAM. Roll off factor 0.22 has taken into account as Raised cosine filter act as FIR filter at that factor. In this paper inter symbol interference (ISI) is examined and it is seen that ISI plays an important role in digital communication systems. It is also observed that overall transmission errors are less while increasing the ratio of bit energy per symbol (Eb/N0). MATLAB communication environment has been used for simulation.
References


Performance Analysis of Digital Communication Systems in Presence of AWGN Implementing Filter Technique

Index Terms

Computer Science  Communications

Keywords

ISI, Likelihood, Roll off factor, Band limited