ABSTRACT

Recently, there are so many communication system constraction to build new installation network. In this case, its not eficient and wasting time. So, there are solution to solve it, it called powerline communication system (PLC). This system not needed to build new installation network, because PLC using electricity power 220V/50HZ for communication in every where.

Since the first time power line channel is only using for power distribution, not for data distribution. Some problem in power line is electromagnetic interference or it called impuls noise.

This final task using BPSK as a modulation techniq, convolutional codes in transmitter and viterbi decoding in receiver. The writer's present different decoding metrics, including new designs adopted from the multiuser detection literature, and derive expresions for cut off rate and bit error rate (BER)

This final task are emenable for quick numerical evaluation for decoder optimazation and performance comparison. Numerical and BER simulation result show that one of the purposed metrics enables robust decoding for PLC channels with impulse noise. The simulation with matlab software.

Keywords : impulse noise, PLC, viterbi decoding, convolutional codes