ABSTRACT

Multiple access interference (MAI) and intersymbol interference (ISI),collectively known as cochannel interference (CCI), inherent in multi-user asynchronous DS/CDMA mobile systems drastically reduce detectability of received signals. In order to reduce or suppress CCI, multiuser detection parallel interference cancellation can be used.

Performance of PIC system depend on the weight of the estimated interference terms constructed using tentative decisions which are expected to be more likely in error. So, tentative decisions very important to estimate MAI and ISI. To get the best estimated interference on the PIC system are choose threshold values. One of method to get the optimal threshold values are use LMS Algoritm. This Final Assignment will research includes comparison performance between PIC soft decision and PIC hard decision in AWGN and Multipath fading channel.

Performance of PIC System will be better by use soft decision which the threshold values of system get from LMS Algoritm. PIC soft decision can improve the performance of convensional system and PIC hard decision over AWGN and Multipath fading channel. On the result of the simulation over AWGN channel, to get BER 10^{-3} ,PIC receiver can give an improvement performance 10 dB than conventional receiver, and on the result of the simulation over Reyleigh Fading channel, to get BER 10^{-3},PIC soft decision give an improvement performace 3 dB than PIC hard decision and 12 dB than conventional receiver.