ABSTRACT

The research that had been done at this final assignment used suboptimum Decorrelator algorithm with low complexity but can give the optimum performance.The detector Decorrelator doesn't need nformation about the user power and it's performance independent with user's power interference.

The detector decorrelator need the information about the right timing that depend on the synchronization result where the delay of the synchronization must lower than 0.6 Tc. Actually, the WCDMA detector multiuser receiver with Decorrelator will be more better than conventional receiver. The Decorrelator receiver can give the best performance if used the SNR values bigger than10 dB. More bigger the SNR values, the performance of decorrelator receiver will increased more significantly than the conventional receiver eventhough there some parameters that changed in simulation, such as user's speed.

The speed of user's movement, will decrease the WCDMA receiver performance. But this problem can be solve by using the Decorrelator algorithm. The multiuser receiver with Decorrelator in WCDMA will give the maximum performance if operated in the condition: low synchronization delay, 0.6 Tc, low speed, and SNR values bigger than 10 dB.