

ABSTRACT

Power control is a mechanism for organizing the spread power *mobile station* (MS) and also *base station* (BS). For CDMA user, which is near with BS, shall interference others user further. Interference among user could reduce the capacity of system. The best condition is if BS could receive the signal from user at the level of the same power. To achieve the best condition, *power control* need to apply to organize the delivery signal in every user. To handle this problem which is caused by *fast fading* could be used *closed loop power control* with *fixed step* method. The advantage of the *fixed step* method is need less bandwidth. To get the best performance, *fixed step* method should use *step size* which is appropriate with the size.

This final project is capable to demonstrate how to get better performance with the influence of correct *stepsize* for 8 and 16 user that moved with different speed. We use Matlab 7.0 to calculate PCE and BER for every user. The conclusion of this final project are the higher mobile station (MS) move, the higher *step size* needed and the higher speed user, the less influence of the used of *stepsize*. Those conclusions could be seen in PCE or BER.

Key words: *mutipath fading, closed-loop power control, signal to interference ratio (SIR), power control error (PCE), bit error rate (BER)*