ABSTRACT

In this thesis, the writer examines the effect of CPM to MIMO MC_CDMA Multi-user system capacity in Rayleigh fading channel through Matlab simulation. The effect of CPM will be compared to other modulations, M-PSK and GMSK, under the same system and environment. The scheme of the designed system incorporates baseband processing subsystem, mapper, MC-CDMA subsystem, MIMO 2 x 2 with STBC encoder. The system simulation is operated with Matlab 7.0 software at AWGN channel and distributed Reyleigh i.i.d fading. The simulation result shows that the system utilizing CPM produces a better system capacity than GMSK, but as better as M-PSK, in every simulated environment. The same value of system capacity is because we use the same symbol set (M) parameter for CPM and M-PSK. As a comparation, in this Thesis, the writer had made the quality comparation between three modulation systems, so we can see the performance modulation systems from capacity and quality.

Key words : CPM, M-PSK, GMSK, mapper, MC-CDMA, MIMO, STBC, Multiuser, Capacity.