ABSTRACT

It has not taken long time yet since 3G was launched in Indonesia, the world already will facing 4G platform that surely will offer high transmission data bit rate. This is caused by the more highly demand from the consumers for transferring data in real time. Optical fiber as a wave guide is believed can fulfill the requirements for transmit highly bit rate with large amount of information capacity. However, the existence of dispersion factor can decrease the existing band with allocation in propagating optical pulses.

Soliton pulse becomes the solution for handling that dispersion effect. With defending the pulse shape stability in its propagation, soliton can increase the utility of existing band with using. Principally, soliton is generated by equalize the dispersion and non linear effect of the fiber. In this final project, the soliton link design using single mode fiber SMF-28 and single mode fiber ESMF at 1550 nm operation wave length will be done. BL-Product parameter such as loss, timing jitter, and interaction between soliton pulses can limits the performance of the soliton pulse that will be designed.

With mathemathic analysis and visualization of the design model using soft ware Matlab 7.0 , those parameters above can be optimized to keep defends the transmitted pulse shape.

Key words : Soliton, Dispersion, BL-Product