ABSTRACT

Optical communication system is a communication system which used fiber optic for its transmission medium and make used light for information carrier wave that will be transmit. Optical communication system have superiority from the others communications systems, such as low attenuation transmission and more large bandwidth.

However, fiber-optic communication systems still have decreasing, such as information carrier laser pulse (optic pulse) susceptible toward dispersion. We could seen this sign from pulse that become wider along fiber optic which impact in power loss this optic pulse. Minimize effort of optic pulse broadening has been trying by minimize fiber optic's radius, with estimated that causes of pulse broadening is the wider fiber optic, so consequence make have a lot of modes that bring information pulse.

Because of that, in this final project has been done the simulation by numerical programming and 3D dimensional figure along single mode fiber optic. By variety input of optical pulse and laser bandwidth could be obtained various figures of propagation fiber optic. From those figures, could be determined a kind of optical pulse shape and quantity of laser bandwidth which have the lowest procentage of power lossess in its propagation.

Key words : optical pulse, laser bandwidth, optical pulse shape, power losses.