ABSTRACT

Soliton pulse known as pulsa which is capable to take care of its shapes for during creeping in materials, specially optical fibre. Seen from its potency, soliton pulsa very supporting to be applied at optic fibre transmission system, specially for the speed of high beet and far distance. But some problems emerge when the pulsa is application into transmission system which of course have limitation at its components, like attenuation and dispertion.

One of the alternative to lessen this attenuation effect is by using EDFA (Erbium Doped Fiber Amplifier), that is lasing using optical fibre which is defiled (doped) by Erbium ion. In this final duty will be done by simulation use MATLAB software by comparing between soliton pulsa before stepping into EDFA with soliton pulsa which have experienced of reinforcement.

Simulation done by trying to put down functioning EDFA as amplifier in-line at transmission distance 1000km, where distance between EDFA determined equal to 75 km with wavelength 1550 nm, using pump power 0-50mW and with EDF length which remain to that is 5m and minimum input energy equal to 27,4dBm for the system of soliton, while input energy for the system of conventional optic communications is -3dBm until 3dBm for the fibre of conventional optic. From result of EDFA simulation for the system of soliton communications yield amplifying about 4,05 dB, while EDFA for the system of conventional optic yield amplifying equal to 20 dB.