SCHOOL OF ENGINEERING

Simulation of Schrodinger Equation for optimum Dispersion compensation with the effect PMD

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3317 Engr Project

Abstract

With the increasing dependence on today's global industry, it has created a heightened

demand for highly efficient elements to support the operating system. Optical devices

have emerged as the preferential source for these foundational fiber optic networks. So,

with the increasing demands on the performance of optical communications systems,

effects such as polarization mode dispersion(PMD) have been

attracting a growing amount of attention. PMD arises from the birefringence in optical

fibers due to some amount of asymmetry caused by imperfections in the manufacturing

process and mechanical stress on the fiber after manufacture. Therefore, in this project, it

would be suggested that resolving the nonlinear Schrodinger equation of the system with

different duty cycle order and chirp would simulate the effect of PMD on dispersion

transmission system.