

ABSTRACT

Nowadays, development of technology in fiber optic communication system has entering new stage about soliton. *Soliton* are pulse shape that not experience shape changes at transmitter or at receiver because of equilibrium of GVD (*Group Velocity Dispersion*) and SPM (*Self-Phase Modulation*). GVD effect in fiber optic would result pulse broadening. While SPM would result spectral broadening, so transmission pulse of soliton became stable. *Timing jitter* are randomly changes of each pulse that transmitted, that influenced by time and timing jitter are the disadvantages of soliton system, besides soliton input is secant hyperbolic pulse. With used soliton dispersion managed, pulse input more nearly to Gaussian shape than secant hyperbolic and timing jitter can reduced.

In this final project, research doing by computer with software MATLAB 6.5 that would compare *timing jitter* in fundamental *soliton* and *timing jitter* in *soliton dispersion managed*, where value of *timing jitter* in *soliton dispersion managed* decreasing if equivalent with fundamental soliton.

Keyword: *soliton, dispersion managed, timing jitter.*

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