Abstract

Results of Hyperbolic-Secant pulse propagation in a single-mode optical fiber communication system are presented. Dispersion results in pulse broadening which limits the information carrying capacity of the fiber. Hyperbolic-Secant pulse propagation model is obtained using split-step Fourier Method from nonlinear Schrodinger Equation. It was found that hyperbolic-secant pulse has a much more uniform pulse broadening and also experience less pulse broadening when compared to a Gaussian pulse at same propagation distance.

References

Hyperbolic-Secant Pulse Propagation in a Single Mode Optical Fiber System


Index Terms

Computer Science
Communications

Keywords
Hyperbolic-Secant single-mode fiber dispersion broadening