

Meeting: 999, Nashville, Tennessee, SS 11A, Special Session on Nonlinear Partial Differential Equations and Applications

999-78-130 **Anjan Biswas*** (abiswas@tnstate.edu), Department of Physics and Mathematics, 3500 John A. Merritt Blvd, Nashville, TN 37209-1561. *Quasi-stationary optical solitons with power law nonlinearity.*

The multiple-scale perturbation analysis is used to study the propagation of solitons through an optical fiber governed by power law nonlinearity. A new definition of the soliton phase is introduced which enables to obtain corrections to the pulse, where the standard soliton perturbation theory fails. Finally, numerical simulations support the analysis. (Received August 18, 2004)