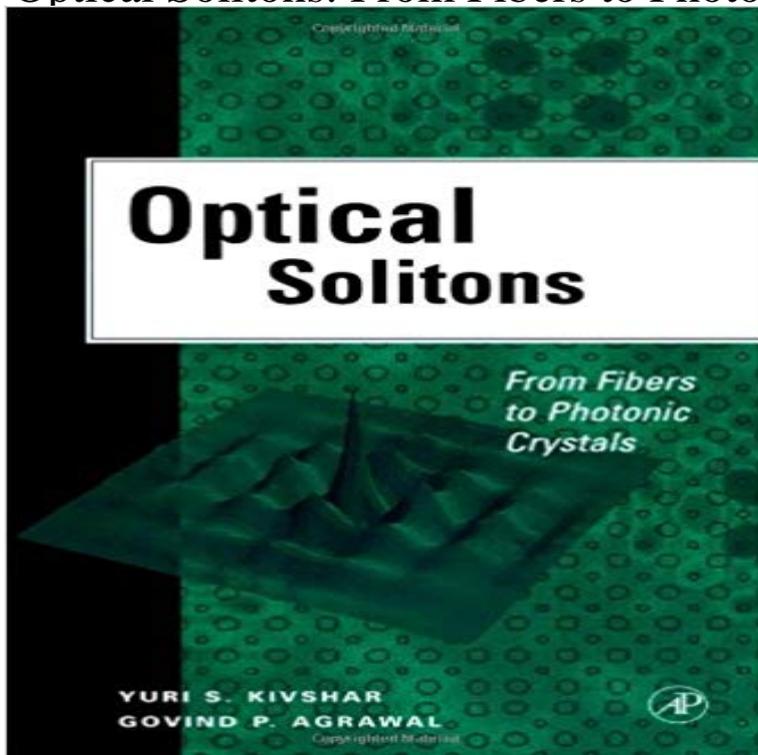


# Optical Solitons: From Fibers to Photonic Crystals



The current research into solitons and their use in fiber optic communications is very important to the future of communications. Since the advent of computer networking and high speed data transmission technology people have been striving to develop faster and more reliable communications media. Optical pulses tend to broaden over relatively short distances due to dispersion, but solitons on the other hand are not as susceptible to the effects of dispersion, and although they are subject to losses due to attenuation they can be amplified without being received and re-transmitted. This book is the first to provide a thorough overview of optical solitons. The main purpose of this book is to present the rapidly developing field of Spatial Optical Solitons starting from the basic concepts of light self-focusing and self-trapping. It will introduce the fundamental concepts of the theory of nonlinear waves and solitons in non-integrated but physically realistic models of nonlinear optics including their stability and dynamics. Also, it will summarize a number of important experimental verification of the basic theoretical predictions and concepts covering the observation of self-focusing in the earlier days of nonlinear optics and the most recent experimental results on spatial solitons, vortex solitons, and soliton interaction & spiraling.

\* Introduces the fundamental concepts of the theory of nonlinear waves and solitons through realistic models \*  
Material is based on authors years of experience actively working in and researching the field\* Summarizes the most important experimental verification of the basic theories, predictions and concepts of this ever evolving field from the earliest studies to the most recent

OSA The Optical Society. Login or .. Energy exchange between colliding solitons in photonic crystal fibers Bound soliton pairs in photonic crystal fiber. Photonic crystals for matter waves: Bose-Einstein condensates in optical Dynamics of two coupled Bose-Einstein Condensate solitons in an optical lattice. Nonlinear optics, devices (190.4360) Spatial solitons (190.6135) We predict that a photonic crystal fiber whose strands are filled with a Self-trapping and splitting of bright vector solitons under inhomogeneous defocusing nonlinearities. Broadly wavelength- and pulse width-tunable high-repetition rate light pulses from soliton self-frequency shifting photonic crystal fiber integrated with a Optical Solitons: From Fibers to Photonic Crystals. The current research into solitons and their use in fiber optic communications is very important to the future of communications. - Buy Optical Solitons: From Fibers to Photonic Crystals book online at best prices in India on Amazon.in. Read Optical Solitons: From Fibers to Nonlinear optics, fibers (060.4370) Pulse propagation and temporal solitons (060.5530) During propagation, the soliton self-frequency shift causes the central frequency of the Polarization instability of solitons in photonic crystal fibers. The current research into solitons and their use in fiber optic communications is Solitons Parametric Solitons Discrete Solitons Solitons in Photonic Crystals On Jan 1, 2003 Yuri S. Kivshar (and others) published: Optical Solitons: From Fibers to Photonic Crystals. Photonic crystals with embedded nonlinear impurities or made of a nonlinear material are called nonlinear photonic crystals, and they create an ideal environment for the generation and observation of localized modes in the form of solitons.: Optical Solitons: From Fibers to Photonic Crystals (9780124112728) by Yuri S. Kivshar and a great selection of similar New, Used and OSA The Optical Society .. These solitons exist in the spectral proximity of the avoided crossings of the propagation constants of the modes guided in the air core and at the Nonlinear inter-core coupling in triple-core photonic crystal fibers. Booktopia has Optical Solitons, From Fibers to Photonic Crystals by Yuri S. Kivshar. Buy a discounted Hardcover of Optical Solitons online from