

1. Record Nr.	UNINA9911022458203321
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Titolo	Analytical Approach in Nonlinear Dispersive Media // by Emmanuel Kengne, Wu-Ming Liu
Pubbl/distr/stampa	Singapore : , : Springer Nature Singapore : , : Imprint : Springer, , 2025
ISBN	981-9687-17-9
Edizione	[1st ed. 2025.]
Descrizione fisica	1 online resource (1154 pages)
Collana	Springer Series in Solid-State Sciences, , 2197-4179 ; ; 210
Altri autori (Persone)	LiuWu-Ming
Disciplina	530.15
Soggetti	Mathematical physics Condensed matter Nonlinear optics Mathematical Methods in Physics Condensed Matter Physics Mathematical Physics Nonlinear Optics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	1. Modulational instability of one-component Bose-Einstein condensate -- 2. Matter-wave solitons of Bose-Einstein condensates in periodic potentials -- 3. Modulational instability and soliton interactions in Bose-Einstein condensates -- 4. Engineering localized waves in Gross-Pitaevskii equations with time-dependent trapping potentials -- 5. Baseband modulational instability and interacting localized mixed waves in nonlinear media.
Sommario/riassunto	This book presents an analytical approach to treating several topics of current interest in the field of nonlinear partial differential equations and their applications to electrical and communications engineering, the physics of nonlinear dispersive media, as well as the nonlinear wave interactions. It treats analytically Ginzburg-Landau and wave equations such as higher-order nonlinear Schrodinger equations with/without dissipative terms, Gross-Pitaevskii equations with complicated potential terms, and cubic-quintic Ginzburg-Landau equations. For solving analytically various problems of mathematical physics in nonlinear dispersive media, the book explanatorily and carefully applies

several powerful methods drawn from recent leading research articles. Special attentions are paid to the modulational instability phenomenon and baseband modulational instability phenomenon in nonlinear dispersive media. The theoretical results of this book are supplemented by numerical calculations and graphical illustrations. This book is intended for scientific researchers working in the field of nonlinear waves; it will be particularly useful for applied mathematicians, theoretical physicists, as well as electrical and communications engineers.
