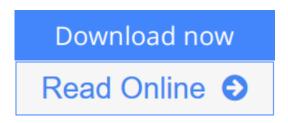


# The Defocusing Nonlinear Schrodinger **Equation: From Dark Solitons to Vortices and Vortex Rings**

By P. G. Kevrekidis, D. J. Frantzeskakis, Ricardo Carretero-Gonzalez



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Bose-Einstein condensation is a phase transition in which a fraction of particles of a boson gas condenses into the same quantum state known as the Bose-Einstein condensate (BEC). The aim of this book is to present a wide array of findings in the realm of BECs and on the nonlinear Schrödinger-type models that arise therein.

The Defocusing Nonlinear Schrödinger Equation is a broad study of nonlinear excitations in self-defocusing nonlinear media. It summarizes state-of-the-art knowledge on the defocusing nonlinear Schrödinger-type models in a single volume and contains a wealth of resources, including over 800 references to relevant articles and monographs and a meticulous index for ease of navigation.

**Audience:** This book is intended for atomic and condensed-matter physicists, nonlinear scientists, and applied mathematicians. It will be equally valuable to beginners and experienced researchers in these fields.

Contents: Preface; Acknowledgments; Chapter 1: Introduction; Chapter 2: The One-Dimensional Case; Chapter 3: The Two-Dimensional Case; Chapter 4: The Three-Dimensional Case; Bibliography; Index.



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#### **Editorial Review**

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