Preface

This book originated from lectures given by the author in January and February 2000 at IMPA's summer program, in the months of August to December 2002 at the State University of Campinas, and in the 24° Colóquio Brasileiro de Matemática, 2003, Brazil.

The intention of this book is to provide a self-contained presentation of classical and new methods in the mathematical studies of wave phenomena that are related to the existence and stability of travelling wave solutions (solitary and periodic waves) for nonlinear dispersive evolution equations. Although many results may be found in the existing literature, in this book we offer new results. This book has also been designed to be instructive as well as to be a new source of reference for students and for mature scientists interested in nonlinear wave phenomena. Simplicity and concrete applications are emphasized in order to make the material easily assimilated. Also, I hope that it inspires future developments in this important and useful subject.

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Jaime Angulo Pava
State University of São Paulo
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