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<<奇非线性行波方程研究的动力系统>>

图书基本信息

书名：<<奇非线性行波方程研究的动力系统方法>>

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内容概要

The Studies of solitons and complete integrability of nonlinear wave equations and bifurcations and chaos of dynamical ystems are two very active fields in nonlinear science. Because a homoclinic orbit of a traveling wave system(ODEs) corresponds to a solitary wave solution of a nonlinear wave equation(PDE). This fact provides an intersection point for above two study fields. The aim of this book is to give a more systematic accotmt for the bifurcation theory method of dynamical systems to find traveling wave solutions with an emphasis on singular waves and understand their dynamics for some classes of the wellposedness of nonlinear evolution equations. Readers shall find how standard methods of the theory of dynamical systems may be used for the study of traveling wave solutions even the case of systems with discontinuities. Any reader trying to understand the subject of this book is only required to know the elementary theory of dynamical systems and elementary knowledge of nonlinear wave equations. This book should be useful as a research reference for graduate students, teachers and engineers in different study fields.

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