

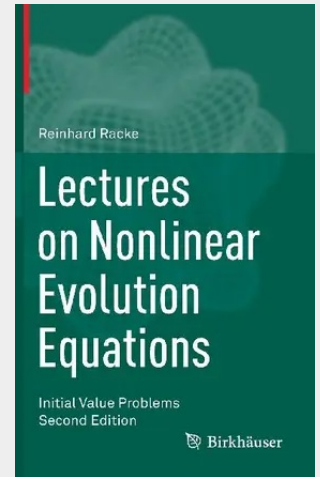
## Lectures on Nonlinear Evolution Equations

### Initial Value Problems

This book mainly serves as an elementary, self-contained introduction to several important aspects of the theory of global solutions to initial value problems for nonlinear evolution equations. The book employs the classical method of continuation of local solutions with the help of *a priori* estimates obtained for small data. The existence and uniqueness of small, smooth solutions that are defined for all values of the time parameter are investigated. Moreover, the asymptotic behaviour of the solutions is described as time tends to infinity. The methods for nonlinear wave equations are discussed in detail. Other examples include the equations of elasticity, heat equations, the equations of thermoelasticity, Schrödinger equations, Klein-Gordon equations, Maxwell equations and plate equations. To emphasize the importance of studying the conditions under which small data problems offer global solutions, some blow-up results are briefly described. Moreover, the prospects for corresponding initial boundary value problems and for open questions are provided.

In this second edition, initial-boundary value problems in waveguides are additionally considered.

This book mainly serves as an elementary, self-contained introduction to several important aspects of the theory of global solutions to initial value problems for nonlinear evolution equations. The book employs the classical method of continuation of local solutions with the help of *a priori* estimates obtained for small data. The existence and uniqueness of small, smooth solutions that are defined for all values of the time parameter are investigated. Moreover, the asymptotic behaviour of the solutions is described as time tends to infinity. The methods for nonlinear wave equations are discussed in detail. Other examples include the equations of elasticity, heat equations, the equations of thermoelasticity, Schrödinger equations, Klein-Gordon equations, Maxwell equations and plate equations. To emphasize the importance of studying the conditions under which small data problems offer global solutions, some blow-up results are briefly described. Moreover, the prospects for corresponding initial boundary value problems and for open questions are provided. In this second edition, initial-boundary value problems in waveguides are additionally considered.



**117,69 €**

109,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

**Artikelnummer:** 9783319218724

**Medium:** Buch

**ISBN:** 978-3-319-21872-4

**Verlag:** Palgrave Macmillan

**Erscheinungstermin:** 07.09.2015

**Sprache(n):** Englisch

**Auflage:** 2. Auflage 2015

**Produktform:** Gebunden

**Gewicht:** 5974 g

**Seiten:** 306

**Format (B x H):** 160 x 241 mm

