

Author: Christopher D. Sogge  
 ISBN: 1-57146-032-2  
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### Description

This volume presents three types of problems in the theory of nonlinear wave equations that have varying degrees of non-trivial overlap with harmonic analysis. The author discusses results concerning existence for certain quasilinear wave equations, semilinear wave equations, and the global existence results for arbitrary smooth data for a special formula. The text is based on Professor Sogge's notes from a course taught at UCLA in the fall of 1994.

## Lectures on Nonlinear Wave Equations

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#### Chapter I. Background and groundwork

1. Linear wave equation: a review
2. Energy inequality: a first version
3. Existence and uniqueness for linear equations
4. Local existence for quasilinear equations
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#### Chapter II. Quasilinear equations with small data

1. Klainerman-Sobolev inequalities
2. Global existence in higher dimensions
3. Null condition and global existence when  $n = 3$
4. The restriction theorem and local existence revisited

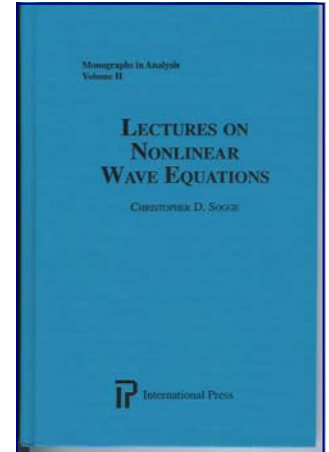
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#### Appendix: Sobolev estimates and Hardy-Littlewood inequalities



Editors: M. Aschbacher, D. Blasius and D. Ramakrishnan  
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### Description

This special volume is based on the one-day conference at Caltech in memory of Olga Taussky-Todd. The speakers at the conference were B. Gross, R. Guralnick, P. Hanlon, K. Ribet, and H. Shapiro. Additional contributors have added their articles to the volume. A review of Olga Taussky-Todd's professional work by H. Kisilevsky has also been included. The articles by R.P. Langlands and I. Piatetski-Shapiro have been very popular.

## Olga Taussky—Todd, in Memoriam: A Special Issue of the Pacific Journal of Mathematics

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1. Finite Groups acting on homology manifolds - Michael Aschbacher
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