

# Lecture Notes in Physics

Edited by J. Ehlers, München, K. Hepp, Zürich  
R. Kippenhahn, München, H. A. Weidenmüller, Heidelberg  
and J. Zittartz, Köln  
Managing Editor: W. Beiglböck, Heidelberg

98

---

## Nonlinear Problems in Theoretical Physics

Proceedings of the IX G.I.F.T. International Seminar on Theoretical Physics,  
Held at Jaca, Huesca (Spain), June 1978

Edited by A. F. Rañada

---



Springer-Verlag  
Berlin Heidelberg New York 1979

## INDEX

	Page
A.O. Barut:	
Nonlinear Problems in Classical and Quantumelectrodynamics	1
I. Bialynicki-Birula:	
On the Stability of Solitons	15
F. Calogero:	
Spectral Transform and Nonlinear Evolution Equations	29
A. Degasperis:	
Spectral Transform and Solvability of Nonlinear Evolution Equations	35
D. Levi:	
The Spectral Transform as a Tool for solving Non-linear discrete evolution equations	91
C.M. Dafermos:	
Hyperbolic Balance laws in Continuum Physics	107
W. Strauss:	
Mathematical Aspects of Classical Nonlinear Field Equations	123
J. Gutierrez, A. Munier, J.R.Burgan, M.R. Feix, E. Fijalkow:	
Nonlinear Transport Equations: Properties Deduced through Transformation groups	151
C. Montes:	
Nonlinear kinetic equation in plasma physics leading to soliton structures	205