

CONTENTS

Foreword		v
S.S. Antman	A family of semi-inverse problems of non-linear elasticity	1
G.S.S. Ávila and D.G. Costa	Asymptotic properties of general symmetric hyperbolic systems	25
J.B. Baillon and J.M. Chadam	The Cauchy problem for the coupled Schroedinger-Klein-Gordon equations	37
T.B. Benjamin	Applications of generic bifurcation theory in fluid mechanics	45
H. Brezis	The Hamilton-Jacobi-Bellman equation for two operators via variational inequalities	74
H. Brezis	Nonlinear problems related to the Thomas-Fermi equation	81
F. Cardoso and J. Hounie	Global solvability and hypoellipticity of abstract complexes and equations	90
Michael O'Carroll	On the inverse scattering problem for linear evolution equations	102
Claude Do	Nonlinear bifurcation problem and buckling of an elastic plate subjected to unilateral conditions in its plane	112
B.D. Coleman	On the thermodynamics of non-classical systems	135
R.L. Fosdick	On an inequality in thermodynamic stability	143
R. Glowinski and O. Pironneau	Least square solution of non linear problems in fluid dynamics	171
P. Podio Guidugli	Elastic bodies in a Signorini-type environment	225
M.E. Gurtin	On the nonlinear theory of elasticity	237
D.D. Joseph	Constitutive equations and free surfaces	254
J.L. Lions	On some questions in boundary value problems of mathematical physics	284

R.C. Maccamy	Memory effects in one-dimensional problems of continuum mechanics	347
Walter Noll	A general framework for problems in the statics of finite elasticity	363
P. Nowosad	Elliptic metrics on Lorentz manifolds	388
S. Osher	Boundary value problems for equations of mixed type	396
J.P. Puel	A free boundary, nonlinear eigenvalue problem	400
James Serrin	The concepts of thermodynamics	411
W.A. Strauss	The nonlinear Schrödinger equation	452
G. Svetlichny and P. Otterson	Derivative dependent infinitesimal deformations of differentiable functions	466
L. Tartar	Non linear constitutive relations and homogenization	472
R. Temam	Qualitative properties of Navier-Stokes equations	485
G. Truesdell	Some challenges offered to analysis by rational thermodynamics	495
W.O. Williams	Some simplified equations from the theory of mixtures	604
Author Index		613