
Contents

Preface	v
Global thermodynamics, exterior Banach forms and Gateaux differential equations D. G. B. EDELEN (<i>Bethlehem, Pa, USA</i>)	1
Singular perturbations A. ERDÉLYI (<i>Edinburgh, UK</i>)	53
Abstract and numerical aspects of the problem concerning the computation of eigenfrequencies of continuous systems G. FICHERA & M. A. SNEIDER (<i>Rome, Italy</i>)	63
Some geometric properties of a system of first-order non-linear partial differential equations W. FISZDON & Z. PERADZYŃSKI (<i>Warsaw, Poland</i>)	91
Duality and convection in continuum mechanics P. GERMAIN (<i>Paris, France</i>)	107
Qualche problema di elettromagnetismo D. GRAFFI (<i>Bologna, Italy</i>)	129
Aspetti variazionali nella meccanica dei continui con deformazioni finite G. GRIOLI (<i>Padua, Italy</i>)	145
Non-linear dissipative and dispersive wave propagation A. JEFFREY (<i>Newcastle-upon-Tyne, UK</i>)	157
Wave propagation F. JOHN (<i>New York, USA</i>)	175
Non-existence of global solutions to non-linear Cauchy problems arising in mechanics R. J. KNOPS & B. STRAUGHAN (<i>Edinburgh, UK</i>)	187

On the complementary energy theorem in non-linear elasticity theory	
W. T. KOITER (<i>Delft, Netherlands</i>)	207
Solutions asymptotiques de l'équation de Dirac	
J. LERAY (<i>Paris, France</i>)	233
Variétés symplectiques et variétés canoniques	
A. LICHNEROWICZ (<i>Paris, France</i>)	249
Coupled fields in elasticity	
W. NOWACKI (<i>Warsaw, Poland</i>)	263
The analyticity of solutions of partial differential equations and its applications	
O. A. OLEINIK (<i>Moscow, USSR</i>)	281
The application of the theory of invariants to the study of constitutive equations	
R. S. RIVLIN (<i>Bethlehem, Pa, USA</i>)	299
Large deformations of crystals, homotopy and defects	
D. ROGULA (<i>Warsaw, Poland</i>)	311
Mathematical foundations of the theory of dimensions, analogies and similarity	
J. RYCHLEWSKI (<i>Warsaw, Poland</i>)	333
On some invariant-theoretic problems of continuum mechanics	
G. F. SMITH (<i>Bethlehem, Pa, USA</i>)	365
On certain mathematical problems occurring in the analysis of fracture phenomena	
M. SOKOŁOWSKI (<i>Warsaw, Poland</i>)	385
Sulla elastostatica degli archi	
F. G. TRICOMI (<i>Turin, Italy</i>)	401
Some mathematical problems in the non-linear theory of elastic membranes, plates and shells	
H. J. WEINTSCHKE (<i>West Berlin, Germany</i>)	409
Foundations of neoclassical thermodynamics: metrization of direct thermodynamic processes	
K. WILMAŃSKI (<i>Warsaw, Poland</i>)	425
Pseudocontinuum analysis of discrete structures	
H. ZORSKI (<i>Warsaw, Poland</i>)	447

