

# Contents

The Homogeneous Field Approximation of Classical Thermodynamics. By W.A. Day .....	1
On the Stored Energy Functions of Hyperelastic Materials with Internal Constraints. By H. Cohen & C.-C. Wang .....	17
The Bianchi Identities in an Explicit Form. By A. W. Marris .....	39
On the Vorticity Numbers of Monotonous Motions. By C. Truesdell .....	47
A Limiting "Viscosity" Approach to the Riemann Problem for Materials Exhibiting Change of Phase. By M. Slemrod .....	53
One Dimensional Infinite-horizon Variational Problems arising in Continuum Mechanics. By A. Leizarowitz & V. J. Mizel .....	93
Admissible Wave Fans in Nonlinear Hyperbolic Systems. By C. M. Dafermos .....	127
Weak Martensitic Transformations in Bravais Lattices. By J. L. Ericksen .....	145
Necessary Conditions at the Boundary for Minimizers in Finite Elasticity. By H. C. Simpson & S. J. Spector .....	159
Phase Transitions of Elastic Solid Materials. By I. Fonseca .....	181
Drops of Nematic Liquid Crystals. By E. G. Virga .....	211

Stability of Deformation of an Elastic Layer. By Y. C. Chen & K. R. Rajagopal .....	231
Conditions for Mechanical Self-Annealing in Motions of Elastic-Plastic Oscillators. By D. R. Owen & J. P. Thomas .....	241
On Saint-Venant's Principle in Finite Anti-Plane Shear: An Energy Approach. By C. O. Horgan & L. E. Payne .....	269
Mixture Invariance and its Applications. By I. Samohýl & M. Šilhavý .....	301
Interactions in General Continua with Microstructure. By G. Capriz & E. G. Virga .....	325
Surface Interaction Potentials in Elasticity. By P. Podio-Guidugli & G. Vergara Caffarelli .....	345
Some Kinematical Results Concerning Steady Flows and Extensional Flows. By W.-L. Yin .....	387
Material Symmetry and Crystals. By R. L. Fosdick & B. Hertog .....	395
A Mathematical Theory of the Guillotine. By P. Villaggio .....	425
Global Properties of Buckled States of Plates that can Suffer Thickness Changes. By S. S. Antman .....	435
Regular Precessions in a Central Newtonian Field of Forces. By G. Grioli .....	451
A Mechanical Theory for Crystallization of a Rigid Solid in a Liquid Melt; Melting-Freezing Waves. By M. E. Gurtin .....	457
On Edge Interactions and Surface Tension. By W. Noll & E. G. Virga .....	483
On a Statistical-Kinetic Model for Generalized Continua. By M. Pitteri .....	515

Memory Effects and Homogenization. By L. Tartar .....	537
On Formation of Singularities in One-Dimensional Nonlinear Thermoelasticity. By W.J. Hrusa & S. A. Messaoudi .....	551
Published Works of Bernard D. Coleman .....	569
Places of First Publication .....	577