

REFERENCES

- Coleman, B.D. and W. Noll [1961]: "Foundations of Linear Viscoelasticity," Rev. Modern Phys. 33, 239-249.
- Cosserat, E. and F. Cosserat [1909] : Théorie des Corps Déformables. Paris A. Hermann.
- Duhem, P. [1893] : "Le potential thermodynamique et la pression hydrostatique, Ann. Ecole Norm. 10, 187-230.
- Eringen, A.C. [1962] : Nonlinear Theory of Continuous Media, Arts. 32,40. McGraw-Hill.
- Eringen, A.C. and E.S. Suhubi [1964 a] : "Nonlinear Theory of Simple Microelastic Solids I & II", Int. J. Engng. Sci. 189-203 and 389-404.
- Eringen, A.C. [1964 b] : "Simple Microfluids", Int. J. Engng. Sci. 2, 205-217.
- Eringen, A.C. [1966 a] : "A Unified Theory of Thermomechanical Materials", Int. J. Engng. Sci. 4, 179-202.
- Eringen, A.C. [1966 b] : "Linear Theory of Micropolar Elasticity", J. Math. & Mech. 15, 6, 909-924.
- Eringen, A.C. [1967 a] : "Mechanics of Micromorphic Continua", Mechanics of Generalized Continua. 18-35. Edited by E. Kröner. Springer-Verlag, 1968.
- Eringen, A.C. [1967 b] : "Linear Theory of Micropolar Viscoelasticity", Int. J. Engng. Sci., 5, 2, 191-204.
- Eringen, A.C. [1967 c] : "Compatibility Conditions of the Theory of Micromorphic Elastic Solids", NASA report (1967). See also J. Math. and Mech. 19, 6, 473-481, 1969.
- Eringen, A.C. [1967 b] : Mechanics of Continua. New York. John Wiley & Sons.

- Eringen, A.C. [1968] : Theory of Micropolar Elasticity Fracture vol. II, 622-729, edit. By Liebowitz, Academic Press.
- Eringen, A.C. and J. Ingram : "A Continuum Theory of Chemically Reacting Media," Int. J. Engng. Sci., 3, 197-212 and 5, 289-322 (1967).
- Kafadar, C.B. and A.C. Eringen [1970] : "Polar Media - The Classical and Relativistic Theory", Office of Naval Research Tech. Report.
- MacCullagh, J. [1839] : "An essay Towards a Dynamical Theory of Crystalline Reflection and Refraction", Trans. Roy. Irish Acad. Sci., 21, 17-50.
- Nowacki, W. and W.K. Nowacki [1969] : "Generation of Waves in Infinite Micropolar Elastic Solid Body I, II", Bull. Acad. Pol. Sci. Techn., 17, 39-47, 49-56.
- Sandru, N. [1966] : "On Some Problems of the Linear Theory of Asymmetric Elasticity", Int. J. Engng. Sci., 4, 81-96.
- Soos, E. [1969] : "Uniqueness Theorems for Homogeneous, Isotropic, Simple Elastic and Thermoelastic Materials Having Microstructure", Int. J. Engng. Sci., 7, 257-268.
- Stajanowic, R. [1969] : "Mechanics of Polar Continua", lecture notes, Int. Center of Mechanical Sciences, 1969.
- Tauchert, T.R., W.D. Claus, and T. Ariman [1968] : "The Linear Theory of Micropolar Thermoelasticity", Int. J. Engng. Sci., 6, 37-47.
- Truesdell, C. and W. Noll [1965] : "The Nonlinear Field Theories of Mechanics", Handbuch der Physik, Bd. III/3, Springer-Verlag, Berlin.
- Voigt, W. [1887] : "Theoretische Studien über die Elastizitätsverhältnisse der Krystalle, Abh. Wiss. Ges. Gottingen, 34.

Voigt, W. [1895]: Kompendium der theoretischen Physik, Bd. 1,
Leipzig.

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