

REFERENCES

- Aris, R. (1962) : Vectors, tensor and the Basic Equations of Fluid Mechanics. Prentice Hall Inc, 89.
- Audretsch, J. : Inertial Reference Frames in Einstein's Theory of Gravitation. Int.J.of theo.Phy. 21 No.1, 1-9.
- Basov, N.G. (1979) : Problems in the General Theory of Relativity and Theory of Group Representations. Consultants Bureau New York and London.
- Barnes, A. (1984) : 'Shear-free flows of a perfect fluid', in classical general relativity. Proceeding of the conference of classical (non-quantum) general relativity, City University, London, U.K. 1983. Edited by W.B.Bonnor, J.N.Islam and M.A.H.Mac Callum, Cambridge University, Press, Cambridge, p.15.
- Bird, R.B., Stewart, W.E. (1960) : Transport Phenomena, and Lightfoot, E.N. New York Wiley.
- Bressan, A. (1978) : Relativistic Theories of Materials. (Berlin: Springer-Verlag).
- Brillouin, L. (1964) : Tensors in Mechanics and Elasticity. Academic Press, New York. (267-68).

- Campbell, S.J. and Wainwright, J. (1977): Algebraic computing and the Newman-Penrose Formalism in General Relativity. *Gen. Rel. Gravi.* 8, pp.987-1001.
- Carmeli, M. (1977): *Group Theory and General Relativity*, McGraw-Hill, International Book Co. New York.
- Carmeli, M. (1982): *Classical Fields: General Relativity, and Gauge Theory*. A-Wiley Interscience Publication, John Wiley & Sons.
- Carminant, J. and Wainwright, J. (1985): Perfect fluid spacetimes with Type D. Weyl Tensor (preprint).
- Carter, B. and Quintana, H. (1972): Foundations of General Relativistic highpressure elasticity. *Proc. Roy. Soc. Lond.*, A221, 57-83.
- Carter, B. and Quintana, H. (1977): Gravitational and Acoustic Waves in an Elastic Medium. *Phys. Rev. D* 16, pp.2928-2938.
- Choquet-Bruhat, Y., Dewitt-Morette, C., and Dillard-Bleick, M. (1982): *Analysis, Manifolds and Physics*. Amsterdam: North Holland Publishing Company.
- Collinson, C.D. (1973): An Algebra classification of Neutrino Fields. In *General Relativity. GRG vol. 4 No. 3*. pp.211-223.
- Collison, C.D. and Dodd R.K. (): Petrov classification of stationary Axisymmetric Empty Space-Time II. *Nuovo Cimento Series X. vol. 62B pp.229-234*.

- Collins,C.B. (1984): Global aspect of shear-free perfect fluids in G.R.
J.Math.Phy. 25,995.
- Collins,C.B. (1984): Shear-free perfect fluids with zero magnetic Weyl tensor.
J.Math.Phys.25(4) pp.995-1000.
- Collins,C.B. (1985): Static Relativistic Perfect fluids with spherical,plane or hyperbolic symmetry (preprint)
Text of an invited talk presented at Canadian Conference on Gen.Rel. and Relativistic Astrophysics,
Dalhousie University,Nova Scotia.
- Collins,C.B. (1985): Shear-free fluids in General Relativity. Text of an invited talk presented at the Canadian Conference on General Relativity and Relativistic Astrophysics,
Dalhousie University, Halifax,
Nova Scotia, Canada.
- Date,T.H. (1972): On the Local Behaviour of Congruences in Relativistic Magneto fluids. J.Shivaji Uni.
5, pp.123-130.
- Davis,W.R. (1974): Symmetry Properties and Conservation laws in Relativistic Continuum Mechanics. Symmetry and Group Theoretic Methods in Mechanics, pp.19-27.
- Ehlers,J. and Kund,W. (1962): Exact solutions of the Gravitational Field Equations, in Gravitation:An Introduction to Current-Research. Ed L.witten (New York:John Wiley and Sons)
pp.49-101.

- Ehler's, S.J. (1973) : Relativity, Astrophysics and cosmology, (Ed.W.Isreal) Reidal Pub.Co.
- Ellis, G.F.R. (1967) : Dynamics of Pressure-free Matter in General Relativity. J.Math. Phy. 8, pp.1171-1194.
- Ellis, G.F.R. (1971) : Relativistic Cosmology in Gen. Rel. and Cosmology Enrico Fermi Ed.R.K.Sachs. pp.104-182, Academic Press, New York.
- Eisenhart, L.P. (1964) : Riemannian Geometry, Princenton University Press.
- Eringen, A.C. (1962) : Non-linear Theory of continuous media. McGraw-Hill Book Company. Inc., New York.
- Flaherty, E.J. (1976) : Lecture Notes in Physics 46, Hermitian and Kahlerin Geometry in Relativity. Springer-Verlag, Berlin, New York.
- Fredrickson, A.G. (1964) : Principles and Applications of Rheology, Englewood Cliff Prentice Hall.
- Friedmann, A. (1922 and 1924) : Uber die Krümmung des reumes. Z.Phys.10,377 and Z.Phys.21,326.
- Ghunakikar, J.T. (1974) : Charged Perfect Fluid with a Null Conductivity (Thesis). Shivaji University, Kolhapur.
- Glass, E.N. (1975) : The Weyl tensor and shear-free perfect fluids, J.Math.Phys. 16, 2361.

- Godel, K. (1949) : Rev. Mod. Phys. 21, 447.
- Hawking, S.W. and Ellis, G.F.R. (1973) : The Large Scale Structure of Space Time (Cambridge University, Press).
- Hawking, S.W. and Harris, J. (1973) ; The Large Scale Structure of (1977) : Rheology and non-Newtonian flow. Longman London and New York.
- Held, A. (1980) : General Relativity and Gravitation vol. 1, Plenum Press, New York and London.
- Jangam, W.B. (1982) : Studies in conservation laws and self Gravitating Distributions of Matter.
- Johri, V.B. (1969) : Gravitational Instability and Structure of the Universe. Prog. Math. (Allahabad) 3, pp. 42.
- Klein, O. (1947) : On a case of radiation equilibrium in general relativity theory and its bearing on the early stage of evolution. Ark. Mat. Astr. Fys. A34, 1.
- Kramer, D, Stephani, H. (1980) : Exact Solutions of Einstein's field Equations.
Herlt, E., MacCallum, M. Schmutzer, E.
- Krasinski, A. (1974) : Acta Phys. Polon B5, 411 (1974).
- Krasinski, A. (1975) : Some solutions of the Einstein field Equations for a Rotating perfect fluid. J. Math. Phys. 16, p. 125.
- Krasinski, A. (1978) : Rep. Math. Phys. 14, 225.

- Landau, L.D. and Lifschitz, E.M. (1975) : Classical theory of fields, Pergman, Oxford.
- Lichnerowicz, A. (1955) : Theories relativistes de la Gravitation et de l'Electromagnetisme, Masson et cie, Paris.
- Lovelock, D. and Rund, H. (1938) : Tensors, Differential forms, and Variational Principles. John Wiley & Sons, New York.
- Mc.Vitte, G.C. (1965) : General Relativity and Cosmology, Chapman and Hall Ltd., London.
- Narlikar, J.V. (1978) : General Relativity and Cosmology, Macmilan Company of India Ltd.
- Newman, E.T. and Penrose, R. (1962) : An approach to Gravitational Radiation by a Method of Spin Coefficients. J.Math.Phys. Vol.3, No.3, pp.566-578.
- Oldroyd, J.G. (1950) : On the formation of Rheological equations of state, Proc.Roy.Soc. Lond. A200, pp.523-541.
- Oliver, D.R. and Davis, W.R. (1977) : On certain Time-like Symmetry Properties and the Evolution of Matter Field Space-Times that admit them. Gen.Rev.Grav.
- O'Neill, B. (1983) : Semi-Riemannian Geometry with Applications to relativity. Academic Press, New York.
- Ozsvath, I. (1966) : Two Rotating Universes with Dust and Electromagnetic Field, in Perspective in Geometry and Relativity, Ed.Hoffman (Indian Uni.Bloomington and London).

- Paria,G. (1967) : On Relativistic Elasticity, Acta Mechanics. Springer Verlag, New York III 12,pp.94-101.
- Peebles,P.J.E. (1971) : Physical Cosmology, Princenton University Press, New Jersey, America.
- Prager,W. (1961) : Introduction to Mechanics of Continua. Chicago-Ginn.
- Radhakrishna,L. and Singh,N.I. (1983) : Shear Collineation, Proceedings of Einstein Foundation International, Nagpur(India)pp.149-169.
- Radhakrishna,L., Date,T.H.,Katkar,L.N. (1981) : Jaumann transport in relativistic continuum mechanics. GRG,13, 200-20
- Radhakrishna,L., Shah,M.A. (1985) : Rheometroynamics. Proceeding of the Conference on Solid Mechanics, Roorkee Uni. p.21-27.
- Radhakrishna,L. (1977) : Relativistic Rheology, International Seminar on Recent Advances in Mathematics and its Applications. Banaras Hindu University,Varanasi, 163-170.
- Rao,A.B.P. (1978) : Gravitational Collapse, Unpublished Ph.D.thesis submitted to Shivaji Uni. Kolhapur.
- Raychaudhuri,A.K. (1969) : Theoretical Cosmology (Oxford: Clarendon Press).
- Rivlin,R.S. and Ericksen,J.L. (1955) : Stress-deformation relations for isotropic materials. J.Rational Mech.Anal.4,323-425.

- Sachs, R.K. (1971) : Gravitational waves in general relativity VI. The outgoing radiation condition. Proc. Roy. Soc. Lond. (A) 264, pp. 309-338.
- Sachs, R.K. and Wu, H. (1977) : General Relativity for Mathematics. Springer-Verlag, New York.
- Schutz, B.F. (1985) : A first course in general relativity. Cambridge University Press, Cambridge.
- Schwarzschild, K. (1916) : Über das Gravitationsfeld eines Massenpunktes nach der Einsteinschen Theorie. Sitzber. Deut. Wiss., Berlin, Kl. Math.-Phys. Tech-189.
- Shaha, R.R. (1974) : Definite Magnetofluid Scheme in general relativity. Ann. Inst. Henri Poincaré, vol. XX, No. 2, pp. 189-200.
- Sokolnikoff, I.S. (1956) : Mathematical theory of Elasticity. Tata McGraw-Hill Publishing Company Ltd., Bombay.
- Sommerfield, A. (1967) : Mechanics of Deformable Bodies. Academic Press, New York and London.
- Straumann, N. (1984) : General Relativity and Relativistic Astrophysics. (Berlin: Springer-Verlag).
- Stomer, O. (1970) : Shear in Friedman Universe. Gen. Rel. and Grav. 1, p. 103.
- Synge, J.L. (1972) : Geometry of Dynamical null lines. Tensor, N.S. vol. 24, pp. 69-74.

- Tolman, C.R. (1958) : Relativity Thermodynamics and Cosmology. Clarendon Press, Oxford.
- Truesdell, C. (1952) : Elasticity and Fluid Dynamics. J. Rat'l Mech. Anal. 1, 125.
- Trautman, A. (1964) : Foundations and Current Problems of General Relativity, in Lectures on General Relativity, Trautman, Pirani and Bondi, (New Jersey: Prentice-Hall, Inc.)
- Treclockas and Ellis (1971) : Commun Math Phys 23, 1.
- Vaidya, P.C. (1973) : A Generalised Kerr-Schild Solution of Einstein Equations, Internal Report Ic/73/65, International Centre for Theoretical Physics, Trieste, Italy.
- Wald, R.M. (1984) : Dynamics of a Homogeneous, Isotropic Universe. Lib. of Congress cataloging in 1.
- Walter, K. (1975) : Rheometry. John Wiley and Sons, New York 11.
- Witten, L. (1962) : A Geometric Theory of the Electro-magnetic and Gravitational Fields, in Gravitation: An Introduction to Current Research, Ed. L. Witten, (New York: John Wiley and Sons).
- White, A. J. and Collins, C. B. (1984) : A class of shear-free perfect fluid in general relativity-I. J. Math. Phys. 25(2), pp. 332-337.
- Wheeler, J. A. (1962) : Geometrodynamics, (New York: Academic Press).
- Whyman, M. (1946) : Schwarzschild Interior Solution in Isotropic Co-ordinate, Phys. Rev., 70.
- Yodzis, P. (1971) : Some General Relations in Relativistic Magnetohydrodynamics. Phy. Rev. D3, pp. 2941-2945.