Differential Forms

References

[1] D. Baldomir, "Differential forms and electromagnetism in 3-dimensional Euclidean space R^3," *IEE Proc.*, vol. 133, pp. 139–143, May 1986.

[2] A. Bossavit, "Differential forms and the computation of fields and forces in electromagnetism," *Eur. J. Mech. B*, vol. 10, no. 5, pp. 474–488, 1991.

[3] K. F. Warnick, R. H. Selfridge, and D. V. Arnold, "Electromagnetic boundary conditions using differential forms," *IEE Proc.*, vol. 142, no. 4, pp. 326–332, 1995.

[4] K. F. Warnick, R. H. Selfridge, and D. V. Arnold, "Teaching electromagnetic field theory using differential forms," *IEEE Trans. Educ.*, To Appear, Feb. 1997.

[5] D. Baldomir and P. Hammond, "Global geometry of electromagnetic systems," *IEE Proc.*, vol. 140, pp. 142–150, Mar. 1992.

[6] K. F. Warnick and D. V. Arnold, "Electromagnetic Green functions using differential forms," *J. Elect. Waves Appl.*, vol. 10, no. 3, pp. 427–438, 1996.

[7] G. A. Deschamps, "Electromagnetics and differential forms," *IEEE Proc.*, vol. 69, pp. 676–696, June 1981.

[8] P. Hammond and D. Baldomir, "Dual energy methods in electromagnetics using tubes and slices," *IEE Proc.*, vol. 135, pp. 167–172, Mar. 1988.

[9] Q.-K. Lu, "Green forms to intrinsic metric of a ball," *Sci. in China Ser. A*, vol. 32, pp. 129–141, Feb. 1989.

[10] D. B. Nguyen, "Relativistic constitutive relations, differential forms, and the p-compound," *Am. J. Phys.*, vol. 60, pp. 1137–1147, Dec. 1992.

[11] N. Schleifer, "Differential forms as a basis for vector analysis—with applications to electrodynamics," *Am. J. Phys.*, vol. 51, pp. 1139–1145, Dec. 1983.

[12] R. Sorkin, "On the relation between charge and topology," *J. Phys. A: Math. Gen.*, vol. 10, no. 5, pp. 717–725, 1977.

[13] W. L. Burke, "Manifestly parity invariant electromagnetic theory and twisted tensors," *J. Math. Phys.*, vol. 24, pp. 65–69, Jan. 1983.

[14] H. Cartan, *Differential Forms.* Boston: Houghton Mifflin, 1970.

[15] P. Bamberg and S. Sternberg, *A Course in Mathematics for Students of Physics*, vol. II. Cambridge: Cambridge University Press, 1988.

[16] W. L. Burke, *Applied Differential Geometry.* Cambridge: Cambridge University Press, 1985.

[17] Y. Choquet-Bruhat and C. DeWitt-Morette, *Analysis, Manifolds and Physics.* Amsterdam: North-Holland, rev. ed., 1982.

[18] Y. Choquet-Bruhat and C. DeWitt-Morette, *Analysis, Manifolds and Physics. Part II: 92 Applications*, vol. 2. Amsterdam: North-Holland, 1989.

[19] H. F. Davis and A. D. Snider, *Introduction to Vector Analysis.* Boston: Allyn and Bacon, 1975.

[20] G. de Rham, *Differentiable Manifolds.* New York: Springer-Verlag, 1984.

[21] H. Federer, *Geometric Measure Theory.* New York: Springer-Verlag, 1969.

[22] H. Flanders, *Differential Forms with Applications to the Physical Sciences.* New York, New York: Dover, 1963.

[23] S. Hassani, *Foundations of Mathematical Physics.* Boston: Allyn and Bacon, 1991.

[24] R. S. Ingarden and A. Jamiołkowksi, *Classical Electrodynamics.* Amsterdam, The Netherlands: Elsevier, 1985.

[25] J. A. Kong, *Electromagnetic Wave Theory.* New York: John Wiley & Sons, 1990.

[26] R. Hermann, *Topics in the geometric theory of linear systems.* Brookline, MA: Math Sci Press, 1984.

[27] C. Misner, K. Thorne, and J. A. Wheeler, *Gravitation.* San Francisco: Freeman, 1973.

[28] C. Nash and S. Sen, *Topology and geometry for physicists.* San Diego, California: Academic Press, 1983.

[29] S. Parrott, *Relativistic Electrodynamics and Differential Geometry.* New York: Springer-Verlag, 1987.

[30] W. Thirring, *Classical Field Theory*, vol. II. New York: Springer-Verlag, 2 ed., 1978.

[31] K. F. Warnick, D. V. Arnold, and R. H. Selfridge, "Electromagnetics made easy: differential forms as a teaching tool," *Frontiers in Education Proceedings*, Salt Lake City, UT, 1996.

[32] K. F. Warnick and D. V. Arnold, "Green forms for anisotropic, inhomogeneous media," *J. Elect. Waves Appl.*, In Press, 1996.

[33] K. F. Warnick and D. V. Arnold, "Differential forms in electromagnetic field theory," *Antennas and Propagation Symposium Proceedings*, Baltimore, MD, 1996.

[34] P. R. Baldwin and R. M. Kiehn, "A classification result for linearly polarized principle electromagnetic waves," *Phys. Lett. A*, vol. 189, pp. 161–166, 1994.

[35] P. R. Baldwin and G. M. Townsend, "Complex trkalian fields and solutions to euler's equation for the ideal fluid," *Phys. Rev. E*, vol. 51, pp. 2059–2068, Mar. 1995.

[36] P. R. Baldwin, "Constructing Clebsch potentials for vector fields," Unpublished.

[37] W. L. Engl, "Topology and geometry of the electromagnetic field," *Radio Sci.*, vol. 19, pp. 1131–1138, Sept.–Oct. 1984.

[38] V. I. Karloukovski, "On the formulation of electrodynamics in terms of differential forms," *Annuaire de l'Universite de Sofia Faculte de Physique*, vol. 79, pp. 3–12, 1986.

[39] R. Mingzhong, T. Banding, and H. Jian, "Differential forms with applications to description and analysis of electromagnetic problems," *Proc. CSEE*, vol. 14, pp. 56–62, Sept. 1994.

[40] R. Picard, "Eigensolution expansions for generalized Maxwell fields on $C^{0,1}$–manifolds with boundary," *Applic. Anal.*, vol. 21, pp. 261–296, 1986.

[41] N. Weck, "Maxwell's boundary value problem on Riemannian manifolds with nonsmooth boundaries," *J. Math. Anal. Appl.*, vol. 46, pp. 410–437, 1974.

[42] N. Salingaros, "Relativistic motion of a charged particle, the lorentz group, and the Thomas precession," *J. Math. Phys.*, vol. 25, pp. 706–716, Mar. 1984.

[43] N. Salingaros, "The gyrofrequency of a charged particle in a constant electromagnetic field," *Il Nuovo Cimento*, vol. 90 B, pp. 232–253, Dec. 1985.

[44] I. Sasaki and T. Kasai, "Algebraic–topological interpretations for basic equations of electromagnetic fields," *Bull. Univ. Osaka Prefecture A*, vol. 25, no. 1-2, pp. 49–57, 1976.

[45] A. Trautman, "Deformations of the hodge map and optical geometry," *JGP*, vol. 1, no. 2, pp. 85–95, 1984.