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REFERENCES

Abramowitz, M. and Stegun, I. A. (editors), *Handbook of Mathematical Functions with Formulas, Graphs and Mathematical Tables*, National Bureau of Standards Applied Mathematics, Washington, 1964.

Andreyanov, B. P., *Vanishing viscosity method and an explicit solution of the Riemann problem with the scalar conservation law*, Moscow Univ. Math. Bulletin, No. 1, pp. 3–8, 1999.

Appell, P., *Traité de Mécanique Rationnelle, T. 1: Statique. Dynamique du Point (Ed. 6)*, Gauthier-Villars, Paris, 1953.

Arnold, V. I., *Mathematical Methods of Classical Mechanics*, Springer-Verlag, New York, 1980.

Bardi, M. and Dolcetta, I. C., *Optimal Control and Viscosity Solutions of Hamilton–Jacobi–Bellman Equations*, Birkhäuser, Boston, 1998.

Bardi, M. and Evans, L. C., *On Hopf's formulas for solutions of Hamilton–Jacobi equations*, Nonlinear Anal. Theory, Meth. and Appl., Vol. 8, No. 11, pp. 1373–1381, 1984.

Barenblatt, G. I., Entov, V. M., and Ryzhik, V. M., *Theory of Fluid Flows Through Natural Rocks*, Kluwer Acad. Publ., London, 1991.

Barron, E. N. and Jensen, R., *Generalized viscosity solutions for Hamilton–Jacobi equations with time-measurable Hamiltonians*, J. Different. Equations, Vol. 68, No. 1, pp. 10–21, 1987.

Bedrikovetsky, P., *Mathematical Theory of Oil and Gas Recovery*, Kluwer Acad. Publ., London, 1993.

Bellman, R., *Dynamic Programming*, Pricenton Univ. Press, Pricenton, NJ, 1957.

Berezkin, E. N., *Lectures on Theoretical Mechanics*, Izd-vo Moskovskogo Universiteta, Moscow, 1968 [in Russian].

Courant, R., *Partial Differential Equations*, InterScience, New York, 1962.

Crandall, M. G., Evans, L. C., and Lions, P.-L., *Some properties of viscosity solutions of Hamilton–Jacobi equations*, Trans. Amer. Math. Soc., Vol. 283, No. 2, pp. 487–502, 1984.

Crandall, M. G., Ishii, H., and Lions, P.-L., *User's guide to viscosity solutions of second order partial differential equations*, Bull. Amer. Math. Soc., Vol. 27, No. 1, pp. 1–67, 1992.

Crandall, M. G. and Lions, P.-L., *Viscosity solutions of Hamilton–Jacobi equations*, Trans. Amer. Math. Soc., Vol. 277, No. 1, pp. 1–42, 1983.

Dafermos, C. M., *Hyperbolic systems of conservation laws*, In: Systems of Partial Differential Equations, D. Reidel, Dordrecht, pp. 24–70, 1983.

Dwight, H. B., *Tables of Integrals and Other Mathematical Data*, Macmillan, New York, 1961.

Evans, L. C. and Souganidis, P. E., *Differential games and representation formulas for solutions of Hamilton–Jacobi–Isaacs equations*, Indiana Univ. Math. J., Vol. 33, No. 5, pp. 773–797, 1984.

Farlow, S. J., *Partial Differential Equations for Scientists and Engineers*, John Wiley & Sons, New York, 1982.

Fedoryuk, M. V., *Saddle-Point Method*, Nauka, Moscow, 1977 [in Russian].

Fedoryuk, M. V., *Asymptotics: Integrals and Series*, Nauka, Moscow, 1987 [in Russian].

Fleming, W. H. and Soner, H. M., *Controlled Markov Processes and Viscosity Solutions*, Springer-Verlag, New York, 1993.

Gantmakher, F. R., *Lectures on Analytical Mechanics*, Fizmatlit, Moscow, 1966 [in Russian].

Gelfand, I. M., *Some problems of the theory of quasi-linear equations*, Uspekhi Matem. Nauk, Vol. 14, No. 2, pp. 87–158, 1959 [Amer. Math. Soc. Translation, Series 2, pp. 295–381, 1963].

Godlewski, E. and Raviart, P.-A., *Numerical Approximation of Hyperbolic Systems of Conservation Laws*, Springer-Verlag, New York, 1996.

Gradshteyn, I. S. and Ryzhik, I. M., *Tables of Integrals, Series, and Products*, Academic Press, New York, 1980.

Hearn, A. C. and Fitch, J. P. (editors), *REDUCE User's Manual 3.6*, Zentrum fur Informatik Berlin (ZIB), Berlin, 1995.

Helfferich, F. and Klein, G., *Multicomponent Chromatography: Theory of Interference*, Marcel Dekker, New York, 1970.

Hoffman, A. L., *A single fluid model for shock formation in MHD shock tubes*, J. Plasma Phys., Vol. 1, pp. 193–207, 1967.

Hopf, E., *The partial differential equation $u_t + uu_x = \mu u_{xx}$*, Communs. Pure and Appl. Math., Vol. 3, pp. 201–230, 1950.

Hopf, E., *Generalized solutions of nonlinear equations of first order*, J. Math. Mech., Vol. 14, pp. 951–973, 1965.

Ishii, H., *Representation of solutions of Hamilton–Jacobi equations*, Nonlinear Anal. Theory, Meth. and Appl., Vol. 12, No. 2, pp. 121–146, 1988.

Jeffery, A., *Quasilinear Hyperbolic Systems and Waves*, Pitman, London, 1976.

John, F., *Partial Differential Equations*, Springer-Verlag, New York, 1982.

Kamke, E., *Differentialgleichungen: Lösungsmethoden und Lösungen, II, Partielle Differentialgleichungen Erster Ordnung für eine gesuchte Funktion*, Akad. Verlagsgesellschaft Geest & Portig, Leipzig, 1965.

Kamke, E., *Differentialgleichungen: Lösungsmethoden und Lösungen, I, Gewöhnliche Differentialgleichungen*, B. G. Teubner, Leipzig, 1977.

Korn, G. A. and Korn, T. M., *Mathematical Handbook for Scientists and Engineers*, McGraw-Hill Book Comp., New York, 1961.

Kozlov, V. V., *Symmetry, Topology and Resonances in Hamiltonian Mechanics*, Izd-vo Udmurtskogo Gos. Universiteta, Izhevsk, 1995 [in Russian].

Krasovskii, N. N. and Subbotin, A. I., *Game-Theoretical Control Problems*, Springer-Verlag, Berlin, 1988.

Kruzhkov, S. N., *Generalized solutions of nonlinear first order equations with several variables*, Mat. Sbornik, Vol. 70, pp. 394–415, 1966 [in Russian].

Kruzhkov, S. N., *Generalized solutions of Hamilton–Jacobi equations of the eikonal type*, Mat. Sbornik, Vol. 27, pp. 406–446, 1975 [in Russian].

Kulikovskii, A. G. and Sveshnikova, E. I., *Nonlinear Waves in Elastic Media*, CRC Press, Boca Raton—New York, 1995.

Lax, P. D., *Week solutions of nonlinear hyperbolic equations and their numerical computation*, Communs. Pure and Appl. Math., Vol. 7, pp. 159–193, 1954.

Lax, P. D., *Hyperbolic systems of conservation laws and the mathematical theory of shock waves* [reprint from the classical paper of 1957], SIAM, Philadelphia, 1997.

LeVeque, R. J., *Numerical Methods for Conservation Laws*, Birkhäuser, Boston, 1992.

Lewin, J., *Differential Games*, Springer-Verlag, Berlin, 1994.

Lighthill, J., *Waves in Fluids*, Cambridge Univer. Press, Cambridge, 1978.

Lions, P.-L., *Generalized Solutions of Hamilton–Jacobi Equations*, Pitman, Boston, 1982.

Lions, P.-L. and Souganidis, P. E., *Differential games, optimal control and directional derivatives of viscosity solutions of Bellman's and Isaacs' solutions*, SIAM J. Control and Optimization, Vol. 23, No. 4, 1985.

Logan, D., *Non-linear Partial Differential Equations*, CRC Press, New York, 1997.

Markeev, A. P., *Theoretical Mechanics*, Nauka, Moscow, 1990 [in Russian].

Melikyan, A. A., *Singular characteristics of the first order PDEs*, Doklady Mathematics, Vol. 54, No. 3, pp. 831–834, 1996.

Melikyan, A. A., *Generalized Characteristics of First Order PDEs: Applications in Optimal Control and Differential Games*, Birkhäuser, Boston, 1998.

Mirică, S., *Extending Cauchy's method of characteristics for Hamilton–Jacobi equations*, Stud. Cerc. Mat., Vol. 37, No. 6, pp. 555–565, 1985.

Moussiaux, A., *CONVODE: a REDUCE package for solving differential equations*, J. Comp. and Appl. Math., Vol. 48, pp. 157–165, 1993.

Moussiaux, A., *CONVODE: un programme REDUCE pour la résolution des équations différentielles*, Didier Hatier, Bruxelles, 1996.

Murphy, G. M., *Ordinary Differential Equations and Their Solutions*, D. Van Nostrand, New York, 1960.

Oleinik, O. A., *On Cauchy's problem for nonlinear equations in the class of discontinuous functions*, Doklady AN SSSR, Vol. 95, No. 3, pp. 451–454, 1954 [in Russian].

Oleinik, O. A., *Discontinuous solutions of nonlinear differential equations*, Uspekhi Matem. Nauk, Vol. 12, No. 3, pp. 3–73, 1957 [Amer. Math. Soc. Translation, Series 2, Vol. 26, pp. 95–172, 1963].

Oleinik, O. A., *On uniqueness and stability of a general solution of Cauchy's problem of quasilinear equations*, Uspekhi Matem. Nauk, Vol. 14, No. 2, pp. 159–164, 1959 [in Russian].

Olver, F. W. J., *Asymptotics and Special Functions*, Academic Press, New York, 1974.

Olver, P. J., *Application of Lie Groups to Differential Equations*, Springer-Verlag, New York, 1986.

Petrovskii, I. G., *Lectures on the Theory of Ordinary Differential Equations*, Nauka, Moscow, 1970 [in Russian].

Polyanin, A. D. and Zaitsev, V. F., *Handbook of Exact Solutions for Ordinary Differential Equations*, CRC Press, Boca Raton—New York, 1995.

Polyanin, A. D. and Zaitsev, V. F., *Handbuch der linearen Differentialgleichungen*, Spectrum Akad. Verlag, Heidelberg, 1996.

Pontryagin, L. S., Boltyansky, V. G., Gamkrelidze, R. V., and Mishchenko, E. F., *Mathematical Theory of Optimal Processes*, Wiley-Interscience, New York, 1962.

Postel, F. and Zimmermann, P., *Solving Ordinary Differential Equations*, in: M. J. Wester (editor), Computer Algebra Systems: A Practical Guide, John Wiley & Sons, Chichester, 1999.

Prudnikov, A. P., Brychkov, Yu. A., and Marichev, O. I., *Integrals and Series, Vol. 1, Elementary Functions*, Gordon & Breach Sci. Publ., New York, 1986.

Prudnikov, A. P., Brychkov, Yu. A., and Marichev, O. I., *Integrals and Series, Vol. 2, Special Functions*, Gordon & Breach Sci. Publ., New York, 1986.

Prudnikov, A. P., Brychkov, Yu. A., and Marichev, O. I., *Integrals and Series, Vol. 3, More Special Functions*, New York, Gordon & Breach Sci. Publ., 1988.

Rayna, G., *REDUCE: Software for Algebraic Computation*, Springer-Verlag, New York, 1987.

Rhee, H., Aris, R., and Amundson, N. R., *First Order Partial Differential Equations, Vol. 1*, Prentice Hall, Englewood Cliffs, New Jersey, 1986.

Rhee, H., Aris, R., and Amundson, N. R., *First Order Partial Differential Equations, Vol. 2*, Prentice Hall, Englewood Cliffs, New Jersey, 1989.

Rozhdestvenskii, B. L. and Yanenko, N. N., *Systems of Quasilinear Equations and Their Applications in Gas Dynamics*, Nauka, Moscow, 1979 [in Russian].

Serre, D., *Systémes de Lois de Conservation, Tome I et II*, Diderot, Paris, 1996.

Smoller, J., *Shock Waves and Reaction-Diffusion Equations*, Springer-Verlag, New York, 1994.

Subbotin, A. I., *Generalized Solutions of First Order PDEs: the Dynamical Optimization Perspective*, Birkhäuser, Boston, 1995.

Subbotin, A. I., *Minimax and Viscosity Solutions of Hamilton–Jacobi Equations*, Nauka, Moscow, 1991 [in Russian].

Subbotina, N. N., *Method of characteristics and generalized solutions of Hamilton–Jacobi–Bellman equations*, Doklady AN SSSR, Vol. 320, No. 3, pp. 556–561, 1991 [in Russian].

Suslov, G. K., *Theoretical Mechanics*, Gostekhizdat, Moscow, 1946 [in Russian].

Taras'ev, A. M., *On an irregular differential game*, Appl. Math. and Mech. (PMM), Vol. 49, No. 4, pp. 682–684, 1985.

Taylor, M., *Partial Differential Equations, Vol. 3*, Springer-Verlag, New York, 1996.

Tikhonov, A. N. and Samarskii, A. A., *On discontinuous solutions of first order quasilinear equations*, Doklady AN SSSR, Vol. 99, No. 1, pp. 27–30, 1954 [in Russian].

Vinogradov, A. M. and Krasilshchik, I. S. (editors), *Symmetries and Conservation Laws of Mathematical Physics Equations*, Faktorial, Moscow, 1997 [in Russian].

Vvedensky, D., *Partial Differential Equations*, Addison-Wesley, Wakingham, 1993.

Whitham, G. B., *Linear and Nonlinear Waves*, Wiley, New York, 1974.

Zaitsev, V. F. and Polyanin, A. D., *Discrete-Group Methods for Integrating Equations of Nonlinear Mechanics*, CRC Press, Boca Raton, 1994.

Zaitsev, V. F. and Polyanin, A. D., *Handbook of Partial Differential Equations: Exact Solutions*, MP Obrazovaniya, Moscow, 1996 [in Russian].

Zaitsev, V. F. and Polyanin, A. D., *Handbook of Nonlinear Ordinary Differential Equations*, Faktorial, Moscow, 1997 [in Russian].

Zauderer, E., *Partial Differential Equations of Applied Mathematics*, John Wiley & Sons, New York, 1983.

Zwillinger, D., *Handbook of Differential Equations*, Academic Press, Boston, 1992.