

Bibliography

- [1] R. P. Agarwal, *Boundary Value Problems for Higher Order Differential Equations*, World Scientific, Teaneck, NJ, USA, 1986.
- [2] R. P. Agarwal, *Focal Boundary Value Problems for Differential and Difference Equations*, vol. 436 of *Mathematics and Its Applications*, Kluwer Academic, Dordrecht, The Netherlands, 1998.
- [3] R. P. Agarwal, H. Lü, and D. O'Regan, "An upper and lower solution method for the one-dimensional singular p -Laplacian," *Memoirs on Differential Equations and Mathematical Physics*, vol. 28, pp. 13–31, 2003.
- [4] R. P. Agarwal and D. O'Regan, "Singular boundary value problems for superlinear second order ordinary and delay differential equations," *Journal of Differential Equations*, vol. 130, no. 2, pp. 333–355, 1996.
- [5] R. P. Agarwal and D. O'Regan, "Nonlinear superlinear singular and nonsingular second order boundary value problems," *Journal of Differential Equations*, vol. 143, no. 1, pp. 60–95, 1998.
- [6] R. P. Agarwal and D. O'Regan, "Positive solutions for $(p, n - p)$ conjugate boundary value problems," *Journal of Differential Equations*, vol. 150, no. 2, pp. 462–473, 1998.
- [7] R. P. Agarwal and D. O'Regan, "Twin solutions to singular Dirichlet problems," *Journal of Mathematical Analysis and Applications*, vol. 240, no. 2, pp. 433–445, 1999.
- [8] R. P. Agarwal and D. O'Regan, "Right focal singular boundary value problems," *Zeitschrift für Angewandte Mathematik und Mechanik*, vol. 79, no. 6, pp. 363–373, 1999.
- [9] R. P. Agarwal and D. O'Regan, "Twin solutions to singular boundary value problems," *Proceedings of the American Mathematical Society*, vol. 128, no. 7, pp. 2085–2094, 2000.
- [10] R. P. Agarwal and D. O'Regan, "Multiplicity results for singular conjugate, focal, and (n, p) problems," *Journal of Differential Equations*, vol. 170, no. 1, pp. 142–156, 2001.
- [11] R. P. Agarwal and D. O'Regan, *Singular Differential and Integral Equations with Applications*, Kluwer Academic, Dordrecht, The Netherlands, 2003.
- [12] R. P. Agarwal and D. O'Regan, "A survey of recent results for initial and boundary value problems singular in the dependent variable," in *Handbook of Differential Equations*, A. Cañada, P. Drábek, and A. Fonda, Eds., vol. 1, pp. 1–68, Elsevier/North-Holland, Amsterdam, The Netherlands, 2004.
- [13] R. P. Agarwal and D. O'Regan, "An infinite interval problem arising in circularly symmetric deformations of shallow membrane caps," *International Journal of Non-Linear Mechanics*, vol. 39, no. 5, pp. 779–784, 2004.
- [14] R. P. Agarwal and D. O'Regan, "Singular problems arising in circular membrane theory," *Dynamics of Continuous, Discrete and Impulsive Systems. Series A*, vol. 10, no. 6, pp. 965–972, 2003.
- [15] R. P. Agarwal, D. O'Regan, and V. Lakshmikantham, "Singular $(p, n - p)$ focal and (n, p) higher order boundary value problems," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 42, pp. 215–228, 2000.
- [16] R. P. Agarwal, D. O'Regan, I. Rachůnková, and S. Staněk, "Two-point higher-order BVPs with singularities in phase variables," *Computers & Mathematics with Applications*, vol. 46, no. 12, pp. 1799–1826, 2003.
- [17] R. P. Agarwal, D. O'Regan, and S. Staněk, "Singular Lidstone boundary value problem with given maximal values for solutions," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 55, no. 7-8, pp. 859–881, 2003.

- [18] R. P. Agarwal, D. O'Regan, and S. Staněk, "Existence of positive solutions for boundary-value problems with singularities in phase variables," *Proceedings of the Edinburgh Mathematical Society. Series II*, vol. 47, no. 1, pp. 1–13, 2004.
- [19] R. P. Agarwal, D. O'Regan, and S. Staněk, "Solvability of singular Dirichlet boundary-value problems with given maximal values for positive solutions," *Proceedings of the Edinburgh Mathematical Society*, vol. 48, no. 1, pp. 1–19, 2005.
- [20] R. P. Agarwal, D. O'Regan, and S. Staněk, "General existence principles for nonlocal boundary value problems with ϕ -Laplacian and their applications," *Abstract and Applied Analysis*, vol. 2006, Article ID 968226, 30 pages, 2006.
- [21] R. P. Agarwal, D. O'Regan, and P. J. Y. Wong, *Positive Solutions of Differential, Difference and Integral Equations*, Kluwer Academic, Dordrecht, The Netherlands, 1999.
- [22] R. P. Agarwal and S. Staněk, "Nonnegative solutions of singular boundary value problems with sign changing nonlinearities," *Computers & Mathematics with Applications*, vol. 46, no. 12, pp. 1827–1837, 2003.
- [23] R. P. Agarwal and R. A. Usmani, "Iterative methods for solving right focal point boundary value problems," *Journal of Computational and Applied Mathematics*, vol. 14, no. 3, pp. 371–390, 1986.
- [24] R. P. Agarwal and R. A. Usmani, "On the right focal point boundary value problems for integro-differential equations," *Journal of Mathematical Analysis and Applications*, vol. 126, no. 1, pp. 51–69, 1987.
- [25] R. P. Agarwal and P. J. Y. Wong, "Lidstone polynomials and boundary value problems," *Computers & Mathematics with Applications*, vol. 17, no. 10, pp. 1397–1421, 1989.
- [26] R. P. Agarwal and P. J. Y. Wong, "Existence of solutions for singular boundary problems for higher order differential equations," *Rendiconti del Seminario Matematico e Fisico di Milano*, vol. 65, pp. 249–264, 1995.
- [27] A. Ambrosetti, "Critical points and nonlinear variational problems," *Mémoires de la Société Mathématique de France*, no. 49, pp. 1–139, 1992.
- [28] R. Aris, *The Mathematical Theory of Diffusion and Reaction in Permeable Catalysts*, Clarendon Press, Oxford, UK, 1975.
- [29] C. Atkinson and J. E. Bouillet, "Some qualitative properties of solutions of a generalised diffusion equation," *Mathematical Proceedings of the Cambridge Philosophical Society*, vol. 86, no. 3, pp. 495–510, 1979.
- [30] R. G. Bartle, *A Modern Theory of Integration*, vol. 32 of *Graduate Studies in Mathematics*, American Mathematical Society, Providence, RI, USA, 2001.
- [31] J. V. Baxley, "Some singular nonlinear boundary value problems," *SIAM Journal on Mathematical Analysis*, vol. 22, no. 2, pp. 463–479, 1991.
- [32] J. V. Baxley, "A singular nonlinear boundary value problem: membrane response of a spherical cap," *SIAM Journal on Applied Mathematics*, vol. 48, no. 3, pp. 497–505, 1988.
- [33] J. V. Baxley and G. S. Gersdorff, "Singular reaction-diffusion boundary value problems," *Journal of Differential Equations*, vol. 115, no. 2, pp. 441–457, 1995.
- [34] J. V. Baxley and S. B. Robinson, "Nonlinear boundary value problems for shallow membrane caps. II," *Journal of Computational and Applied Mathematics*, vol. 88, no. 1, pp. 203–224, 1998.
- [35] J. Bebernes and D. Eberly, *Mathematical Problems from Combustion Theory*, vol. 83 of *Applied Mathematical Sciences*, Springer, New York, NY, USA, 1989.
- [36] H. Berestycki, P.-L. Lions, and L. A. Peletier, "An ODE approach to the existence of positive solutions for semilinear problems in \mathbb{R}^N ," *Indiana University Mathematics Journal*, vol. 30, no. 1, pp. 141–157, 1981.
- [37] F. Bernis, "Nonlinear parabolic equations arising in semiconductor and viscous droplets models," in *Nonlinear Diffusion Equations and Their Equilibrium States, 3 (Gregynog, 1989)*, N. G. Lloyd, W. M. Ni, L. A. Peletier, and J. Serrin, Eds., vol. 7 of *Progr. Nonlinear Differential Equations Appl.*, pp. 77–88, Birkhäuser, Boston, Mass, USA, 1992.

- [38] F. Bernis, "On some nonlinear singular boundary value problems of higher order," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 26, no. 6, pp. 1061–1078, 1996.
- [39] F. Bernis, L. A. Peletier, and S. M. Williams, "Source type solutions of a fourth order nonlinear degenerate parabolic equation," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 18, no. 3, pp. 217–234, 1992.
- [40] A. L. Bertozzi, M. P. Brenner, T. F. Dupont, and L. P. Kadanoff, "Singularities and similarities in interface flows," in *Trends and Perspectives in Applied Mathematics*, L. Sirovich, Ed., vol. 100 of *Appl. Math. Sci.*, pp. 155–208, Springer, New York, NY, USA, 1994.
- [41] V. Bevc, J. L. Palmer, and C. Süskind, "On the design of the transition region of axi-symmetric magnetically beam valves," *The British Institution of Radio Engineers*, vol. 18, pp. 697–708, 1958.
- [42] P. A. Binding, P. Drábek, and Y. X. Huang, "On the Fredholm alternative for the p -Laplacian," *Proceedings of the American Mathematical Society*, vol. 125, no. 12, pp. 3555–3559, 1997.
- [43] L. E. Bobisud, "Asymptotic dead cores for reaction-diffusion equations," *Journal of Mathematical Analysis and Applications*, vol. 147, no. 1, pp. 249–262, 1990.
- [44] L. E. Bobisud, "Steady-state turbulent flow with reaction," *The Rocky Mountain Journal of Mathematics*, vol. 21, no. 3, pp. 993–1007, 1991.
- [45] D. Bonheure and C. De Coster, "Forced singular oscillators and the method of lower and upper solutions," *Topological Methods in Nonlinear Analysis*, vol. 22, no. 2, pp. 297–317, 2003.
- [46] D. Bonheure, C. Fabry, and D. Smets, "Periodic solutions of forced isochronous oscillators at resonance," *Discrete and Continuous Dynamical Systems. Series A*, vol. 8, no. 4, pp. 907–930, 2002.
- [47] J. E. Bouillet and C. Atkinson, "A generalized diffusion equation: radial symmetries and comparison theorems," *Journal of Mathematical Analysis and Applications*, vol. 95, no. 1, pp. 37–68, 1983.
- [48] C. J. Budd, G. J. Collins, and V. A. Galaktionov, "An asymptotic and numerical description of self-similar blow-up in quasilinear parabolic equations," *Journal of Computational and Applied Mathematics*, vol. 97, no. 1-2, pp. 51–80, 1998.
- [49] A. Cabada and R. L. Pouso, "Existence result for the problem $(\phi(u'))' = f(t, u, u')$ with periodic and Neumann boundary conditions," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 30, no. 3, pp. 1733–1742, 1997.
- [50] A. Cabada, P. Habets, and R. L. Pouso, "Lower and upper solutions for the periodic problem associated with a ϕ -Laplacian equation," in *International Conference on Differential Equations, Vol. 1, 2 (Berlin, 1999)*, pp. 491–493, World Scientific, River Edge, NJ, USA, 2000.
- [51] A. Cabada, P. Habets, and R. L. Pouso, "Optimal existence conditions for ϕ -Laplacian equations with upper and lower solutions in the reversed order," *Journal of Differential Equations*, vol. 166, no. 2, pp. 385–401, 2000.
- [52] A. Cabada, A. Lomtatidze, and M. Tvrđý, "Periodic problem with quasilinear differential operator and weak singularity," *Advanced Nonlinear Studies*, vol. 7, no. 4, pp. 629–649, 2007.
- [53] A. J. Callegari and M. B. Friedman, "An analytical solution of a nonlinear, singular boundary value problem in the theory of viscous fluids," *Journal of Mathematical Analysis and Applications*, vol. 21, pp. 510–529, 1968.
- [54] A. Callegari and A. Nachman, "Some singular, nonlinear differential equations arising in boundary layer theory," *Journal of Mathematical Analysis and Applications*, vol. 64, no. 1, pp. 96–105, 1978.
- [55] A. Nachman and A. Callegari, "A nonlinear singular boundary value problem in the theory of pseudoplastic fluids," *SIAM Journal on Applied Mathematics*, vol. 38, no. 2, pp. 275–281, 1980.
- [56] A. Capietto, J. Mawhin, and F. Zanolin, "A continuation approach to superlinear periodic boundary value problems," *Journal of Differential Equations*, vol. 88, no. 2, pp. 347–395, 1990.
- [57] C. Y. Chan and Y. C. Hon, "A constructive solution for a generalized Thomas-Fermi theory of ionized atoms," *Quarterly of Applied Mathematics*, vol. 45, no. 3, pp. 591–599, 1987.

- [58] M. Cherpion, C. De Coster, and P. Habets, "Monotone iterative methods for boundary value problems," *Differential and Integral Equations*, vol. 12, no. 3, pp. 309–338, 1999.
- [59] J. Cronin, *Fixed Points and Topological Degree in Nonlinear Analysis*, Mathematical Surveys, no. 11, American Mathematical Society, Providence, RI, USA, 1964.
- [60] C. De Coster and P. Habets, "Lower and upper solutions in the theory of ODE boundary value problems: classical and recent results," in *Nonlinear Analysis and Boundary Value Problems for Ordinary Differential Equations*, F. Zanolin, Ed., vol. 371 of *CISM Courses and Lectures*, pp. 1–79, Springer, New York, NY, USA, 1996.
- [61] C. De Coster and P. Habets, "The lower and upper solutions method for boundary value problems," in *Handbook of Differential Equations*, A. Cañada, P. Drábek, and A. Fonda, Eds., pp. 69–160, Elsevier/North-Holland, Amsterdam, Amsterdam, The Netherlands, 2004.
- [62] C. De Coster and P. Habets, "An overview of the method of lower and upper solutions for ODEs," in *Nonlinear Analysis and Its Applications to Differential Equations (Lisbon, 1998)*, M. R. Grossinho, M. Ramos, C. Rebelo, and L. Sanchez, Eds., vol. 43 of *Progress in Nonlinear Differential Equations and their Applications*, pp. 3–22, Birkhäuser, Boston, Mass, USA, 2001.
- [63] W. Dambrosio, "Multiple solutions of weakly-coupled systems with p -Laplacian operators," *Results in Mathematics*, vol. 36, no. 1-2, pp. 34–54, 1999.
- [64] Klaus Deimling, *Nonlinear Functional Analysis*, Springer, Berlin, Germany, 1985.
- [65] M. del Pino, P. Drábek, and R. Manásevich, "The Fredholm alternative at the first eigenvalue for the one-dimensional p -Laplacian," *Journal of Differential Equations*, vol. 151, no. 2, pp. 386–419, 1999.
- [66] M. del Pino, M. Elgueta, and R. Manásevich, "A homotopic deformation along p of a Leray-Schauder degree result and existence for $(|u'|^{p-2}u')' + f(t, u') = 0$, $u(0) = u(T) = 0$, $p \in (1, \infty)$," *Journal of Differential Equations*, vol. 80, no. 1, pp. 1–13, 1989.
- [67] M. A. del Pino and R. F. Manásevich, "Infinitely many T -periodic solutions for a problem arising in nonlinear elasticity," *Journal of Differential Equations*, vol. 103, no. 2, pp. 260–277, 1993.
- [68] M. del Pino, R. Manásevich, and A. Montero, " T -periodic solutions for some second order differential equations with singularities," *Proceedings of the Royal Society of Edinburgh. Section A*, vol. 120, no. 3-4, pp. 231–243, 1992.
- [69] M. A. del Pino, R. F. Manásevich, and A. E. Murúa, "Existence and multiplicity of solutions with prescribed period for a second order quasilinear ODE," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 18, no. 1, pp. 79–92, 1992.
- [70] L. Derwidué, "Systèmes différentiels non linéaires ayant des solutions périodiques," *Bulletin de la Classe des Sciences. Académie Royale de Belgique*, vol. 49, pp. 11–32, 1963.
- [71] L. Derwidué, "Systèmes différentiels non linéaires ayant des solutions périodiques," *Bulletin de la Classe des Sciences. Académie Royale de Belgique*, vol. 50, pp. 928–942, 1964.
- [72] L. Derwidué, "Systèmes différentiels non linéaires ayant des solutions périodiques," *Bulletin de la Classe des Sciences. Académie Royale de Belgique*, vol. 50, pp. 1130–1142, 1964.
- [73] J. Diblík, "The singular Cauchy-Nicoletti problem for the system of two ordinary differential equations," *Mathematica Bohemica*, vol. 117, no. 1, pp. 55–67, 1992.
- [74] R. W. Dickey, "Rotationally symmetric solutions for shallow membrane caps," *Quarterly of Applied Mathematics*, vol. 47, no. 3, pp. 571–581, 1989.
- [75] T. Ding, "A boundary value problem for the periodic Brillouin focusing system," *Acta Scientiarum Naturalium Universitatis Pekinensis*, vol. 11, pp. 31–38, 1965 (Chinese).
- [76] W. Y. Ding, "A generalization of the Poincaré-Birkhoff theorem," *Proceedings of the American Mathematical Society*, vol. 88, no. 2, pp. 341–346, 1983.
- [77] O. Došlý, "Half-linear differential equations," in *Handbook of Differential Equations Vol. 1*, A. Cañada, P. Drábek, and A. Fonda, Eds., chapter 3, pp. 161–357, Elsevier/North-Holland, Amsterdam, The Netherlands, 2004.

- [78] O. Došlý and P. Řehák, *Half-Linear Differential Equations*, North-Holland Mathematics Studies 202, Elsevier, Amsterdam, The Netherlands, 2005.
- [79] P. Drábek, *Solvability and Bifurcations of Nonlinear Equations*, vol. 264 of *Pitman Research Notes in Mathematics Series*, Longman Scientific & Technical, Harlow, UK, 1992.
- [80] P. Drábek and R. Manásevich, "On the closed solution to some nonhomogeneous eigenvalue problems with p -Laplacian," *Differential and Integral Equations*, vol. 12, no. 6, pp. 773–788, 1999.
- [81] M. Drmota, R. Scheidl, H. Troger, and E. Weinmüller, "On the imperfection sensitivity of complete spherical shells," *Computational Mechanics*, vol. 2, no. 1, pp. 63–74, 1987.
- [82] P. W. Eloe and J. Henderson, "Singular nonlinear $(n - 1, 1)$ conjugate boundary value problems," *Georgian Mathematical Journal*, vol. 4, no. 5, pp. 401–412, 1997.
- [83] P. W. Eloe and J. Henderson, "Singular nonlinear $(k, n - k)$ conjugate boundary value problems," *Journal of Differential Equations*, vol. 133, no. 1, pp. 136–151, 1997.
- [84] J. R. Esteban and J. L. Vázquez, "On the equation of turbulent filtration in one-dimensional porous media," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 10, no. 11, pp. 1303–1325, 1986.
- [85] C. Fabry and D. Fayyad, "Periodic solutions of second order differential equations with a p -Laplacian and asymmetric nonlinearities," *Rendiconti dell'Istituto di Matematica dell'Università di Trieste*, vol. 24, no. 1-2, pp. 207–227, 1992.
- [86] C. Fabry and P. Habets, "Upper and lower solutions for second-order boundary value problems with nonlinear boundary conditions," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 10, no. 10, pp. 985–1007, 1986.
- [87] X.-L. Fan and X. Fan, "A Knobloch-type result for $p(t)$ -Laplacian systems," *Journal of Mathematical Analysis and Applications*, vol. 282, no. 2, pp. 453–464, 2003.
- [88] X.-L. Fan, H.-Q. Wu, and F.-Z. Wang, "Hartman-type results for $p(t)$ -Laplacian systems," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 52, no. 2, pp. 585–594, 2003.
- [89] R. Faure, "Solutions périodiques d'équations différentielles et méthode de Leray-Schauder. (Cas des vibrations forcées)," *Annales de l'Institut Fourier*, vol. 14, no. 1, pp. 195–204, 1964.
- [90] A. Fonda, "Periodic solutions of scalar second order differential equations with a singularity," *Memoire de la Classe de Sciences de l'Académie Royale Scientifique de Belgique*, vol. 4, pp. 1–39, 1993.
- [91] A. Fonda, "Periodic solutions for a conservative system of differential equations with a singularity of repulsive type," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 24, no. 5, pp. 667–676, 1995.
- [92] A. Fonda, R. Manásevich, and F. Zanolin, "Subharmonic solutions for some second-order differential equations with singularities," *SIAM Journal on Mathematical Analysis*, vol. 24, no. 5, pp. 1294–1311, 1993.
- [93] N. Forbat and A. Huaux, "Détermination approchée et stabilité locale de la solution périodique d'une équation différentielle non linéaire," *Mémoires et Publications de la Société des Sciences, des Arts et des Lettres du Hainaut*, vol. 76, pp. 193–203, 1962.
- [94] S. Fučík, J. Nečas, J. Souček, and V. Souček, *Spectral Analysis of Nonlinear Operators*, vol. 346 of *Lecture Notes in Mathematics*, Springer, Berlin, Germany, 1973.
- [95] S. Gaete and R. F. Manásevich, "Existence of a pair of periodic solutions of an O.D.E. generalizing a problem in nonlinear elasticity, via variational methods," *Journal of Mathematical Analysis and Applications*, vol. 134, no. 2, pp. 257–271, 1988.
- [96] J. J. Garcia-Ripoll, V. M. Pérez-Garcia, and P. Torres, "Extended parametric resonances in nonlinear Schrödinger systems," *Physical Review Letters*, vol. 83, no. 9, pp. 1715–1718, 1999.
- [97] W. Ge and J. Mawhin, "Positive solutions to boundary value problems for second order ordinary differential equations with singular nonlinearities," *Results in Mathematics*, vol. 34, no. 1-2, pp. 108–119, 1998.

- [98] B. Gidas, W. Ni, and L. Nirenberg, "Symmetry of positive solutions of nonlinear elliptic equations in \mathbb{R}^N ," *Advances in Mathematics. Supplement Studies*, vol. 7A, pp. 369–402, 1981.
- [99] M. A. Goldberg, "An iterative solution for rotationally symmetric nonlinear membrane problems," *International Journal of Non-Linear Mechanics*, vol. 1, no. 3, pp. 169–178, 1966.
- [100] W. B. Gordon, "Conservative dynamical systems involving strong forces," *Transactions of the American Mathematical Society*, vol. 204, pp. 113–135, 1975.
- [101] A. Granas and J. Dugundji, *Fixed Point Theory*, Springer Monographs in Mathematics, Springer, New York, NY, USA, 2003.
- [102] A. Granas, R. B. Guenther, and J. W. Lee, "Some general existence principles in the Carathéodory theory of nonlinear differential systems," *Journal de Mathématiques Pures et Appliquées*, vol. 70, no. 2, pp. 153–196, 1991.
- [103] P. Habets and L. Sanchez, "Periodic solutions of some Liénard equations with singularities," *Proceedings of the American Mathematical Society*, vol. 109, no. 4, pp. 1035–1044, 1990.
- [104] P. Habets and L. Sanchez, "Periodic solutions of dissipative dynamical systems with singular potentials," *Differential and Integral Equations*, vol. 3, no. 6, pp. 1139–1149, 1990.
- [105] P. Hartman, *Ordinary Differential Equations*, John Wiley & Sons, New York, NY, USA, 1964.
- [106] M. A. Herrero and J. L. Vázquez, "On the propagation properties of a nonlinear degenerate parabolic equation," *Communications in Partial Differential Equations*, vol. 7, no. 12, pp. 1381–1402, 1982.
- [107] E. Hewitt and K. Stromberg, *Real and Abstract Analysis*, Springer, New York, NY, USA, 1965.
- [108] Aimé Huaux, "Sur l'existence d'une solution périodique de l'équation différentielle non linéaire $u'' + 0.2u' + u/(1-u) = 0.5 \cos \omega t$," *Bulletin de la Classe des Sciences. Académie Royale de Belgique*, vol. 48, pp. 494–504, 1962.
- [109] P. Jebelean and J. Mawhin, "Periodic solutions of singular nonlinear perturbations of the ordinary p -Laplacian," *Advanced Nonlinear Studies*, vol. 2, no. 3, pp. 299–312, 2002.
- [110] P. Jebelean and J. Mawhin, "Periodic solutions of forced dissipative p -Liénard equations with singularities," *Vietnam Journal of Mathematics*, vol. 32, pp. 97–103, 2004.
- [111] D. Jiang, "Upper and lower solutions method and a singular superlinear boundary value problem for the one-dimensional p -Laplacian," *Computers & Mathematics with Applications*, vol. 42, no. 6-7, pp. 927–940, 2001.
- [112] D. Jiang, "Upper and lower solutions method and a superlinear singular boundary value problem," *Computers & Mathematics with Applications*, vol. 44, no. 3-4, pp. 323–337, 2002.
- [113] D. Jiang and J. Wang, "A generalized periodic boundary value problem for the one-dimensional p -Laplacian," *Annales Polonici Mathematici*, vol. 65, no. 3, pp. 265–270, 1997.
- [114] K. N. Johnson, "Circularly symmetric deformation of shallow elastic membrane caps," *Quarterly of Applied Mathematics*, vol. 55, no. 3, pp. 537–550, 1997.
- [115] R. Kannan and D. O'Regan, "Singular and nonsingular boundary value problems with sign changing nonlinearities," *Journal of Inequalities and Applications*, vol. 5, no. 6, pp. 621–637, 2000.
- [116] I. T. Kiguradze, "Some singular boundary value problems for second order nonlinear ordinary differential equations," *Differentsial'nye Uravneniya*, vol. 4, pp. 1753–1773, 1968 (Russian).
- [117] I. T. Kiguradze, *On Some Singular Boundary Value Problems for Ordinary Differential Equations*, Tbilisi University, Tbilisi, Russia, 1975.
- [118] I. T. Kiguradze, "Boundary value problems for systems of ordinary differential equations," in *Current Problems in Mathematics. Newest Results, Vol. 30 (Russian)*, Itogi Nauki i Tekhniki, pp. 3–103, Akad. Nauk SSSR Vsesoyuz. Inst. Nauchn. i Tekhn. Inform., Moscow, Russia, 1987, translated in *Journal of Soviet Mathematics*, vol. 43, no. 2, pp. 2259–2339, 1988.
- [119] I. Kiguradze, "Some optimal conditions for the solvability of two-point singular boundary value problems," *Functional Differential Equations*, vol. 10, no. 1-2, pp. 259–281, 2003.

- [120] I. T. Kiguradze and B. L. Shekhter, "Singular boundary value problems for second-order ordinary differential equations," in *Current Problems in Mathematics. Newest Results, Vol. 30 (Russian)*, Itogi Nauki i Tekhniki, pp. 105–201, Akad. Nauk SSSR Vsesoyuz. Inst. Nauchn. i Tekhn. Inform., Moscow, Russia, 1987, translated in *Journal of Soviet Mathematics*, vol. 43, no. 2, pp. 2340–2417, 1988.
- [121] S. Lang, *Real and Functional Analysis*, vol. 142 of *Graduate Texts in Mathematics*, Springer, New York, NY, USA, 3rd edition, 1993.
- [122] G. S. Ladde, V. Lakshmikantham, and A. S. Vatsala, *Monotone Iterative Techniques for Nonlinear Differential Equations*, Pitman, Boston, Mass, USA, 1995.
- [123] A. Lasota, "Sur les problèmes linéaires aux limites pour un système d'équations différentielles ordinaires," *Bulletin de l'Académie Polonaise des Sciences. Série des Sciences Mathématiques, Astronomiques et Physiques*, vol. 10, pp. 565–570, 1962.
- [124] A. C. Lazer and S. Solimini, "On periodic solutions of nonlinear differential equations with singularities," *Proceedings of the American Mathematical Society*, vol. 99, no. 1, pp. 109–114, 1987.
- [125] M. N. Le Roux and H. Wilhelmsson, "Dynamics of coupled temperature and density in a fusion reactor plasma for centrally pronounced heating and particle injection," *Physica Scripta*, vol. 47, pp. 104–108, 1993.
- [126] H. A. Levine, "The role of critical exponents in blow-up theorems," *SIAM Review*, vol. 32, no. 2, pp. 262–288, 1990.
- [127] B. Liu, "Multiplicity results for periodic solutions of a second order quasilinear ODE with asymmetric nonlinearities," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 33, no. 2, pp. 139–160, 1998.
- [128] B. Liu, "Periodic solutions of dissipative dynamical systems with singular potential and p -Laplacian," *Annales Polonici Mathematici*, vol. 79, no. 2, pp. 109–120, 2002.
- [129] A. G. Lomtatidze, "Positive solutions of boundary value problems for second-order ordinary differential equations with singularities," *Differentsial'nye Uravneniya*, vol. 23, no. 10, pp. 1685–1692, 1987 (Russian), translated in *Differential Equations*, vol. 23, pp. 1146–1152, 1987.
- [130] A. Lomtatidze and L. Malaguti, "On a two-point boundary value problem for the second order ordinary differential equations with singularities," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 52, no. 6, pp. 1553–1567, 2003.
- [131] A. Lomtatidze and P. Torres, "On a two-point boundary value problem for second order singular equations," *Czechoslovak Mathematical Journal*, vol. 53, no. 1, pp. 19–43, 2003.
- [132] H. Lü, D. O'Regan, and R. P. Agarwal, "Positive radial solutions for a quasilinear system," *Applicable Analysis*, vol. 85, no. 4, pp. 363–371, 2006.
- [133] R. Manásevich and J. Mawhin, "Periodic solutions for nonlinear systems with p -Laplacian-like operators," *Journal of Differential Equations*, vol. 145, no. 2, pp. 367–393, 1998.
- [134] R. Manásevich and J. Mawhin, "Boundary value problems for nonlinear perturbations of vector p -Laplacian-like operators," *Journal of the Korean Mathematical Society*, vol. 37, no. 5, pp. 665–685, 2000.
- [135] R. Manasévich and J. Mawhin, "The spectrum of p -Laplacian systems under Dirichlet, Neumann and periodic boundary conditions," in *Morse Theory, Minimax Theory and Their Applications to Nonlinear Differential Equations*, H. Brezis, S. J. Li, J. Q. Liu, and P. H. Rabinowitz, Eds., vol. 1 of *New Stud. Adv. Math.*, pp. 201–216, International Press, Somerville, Mass, USA, 2003.
- [136] J. Mawhin, *Topological Degree Methods in Nonlinear Boundary Value Problems*, vol. 40 of *CBMS Regional Conference Series in Mathematics*, American Mathematical Society, Providence, RI, USA, 1979.
- [137] J. Mawhin, "Topological degree and boundary value problems for nonlinear differential equations," in *Topological Methods for Ordinary Differential Equations (Montecatini Terme, 1991)*, M. Furi and P. Zecca, Eds., vol. 1537 of *Lecture Notes in Math.*, pp. 74–142, Springer, Berlin, Germany, 1993.

- [138] J. Mawhin, "Leray-Schauder continuation theorems in the absence of a priori bounds," *Topological Methods in Nonlinear Analysis*, vol. 9, no. 1, pp. 179–200, 1997.
- [139] J. Mawhin, "Some boundary value problems for Hartman-type perturbations of the ordinary vector p -Laplacian," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 40, no. 1–8, pp. 497–503, 2000.
- [140] J. Mawhin, "Periodic solutions of systems with p -Laplacian-like operators," in *Nonlinear Analysis and Its Applications to Differential Equations (Lisbon, 1998)*, M. R. Grossinho, M. Ramos, C. Rebelo, and L. Sanchez, Eds., vol. 43 of *Progress in Nonlinear Differential Equations and their Applications*, pp. 37–63, Birkhäuser, Boston, Mass, USA, 2001.
- [141] J. Mawhin and A. J. Ureña, "A Hartman-Nagumo inequality for the vector ordinary p -Laplacian and applications to nonlinear boundary value problems," *Journal of Inequalities and Applications*, vol. 7, no. 5, pp. 701–725, 2002.
- [142] J. Mawhin and M. Willem, *Critical Point Theory and Hamiltonian Systems*, vol. 74 of *Applied Mathematical Sciences*, Springer, New York, NY, USA, 1989.
- [143] P. Martínez-Amores and P. J. Torres, "Dynamics of a periodic differential equation with a singular nonlinearity of attractive type," *Journal of Mathematical Analysis and Applications*, vol. 202, no. 3, pp. 1027–1039, 1996.
- [144] T. Y. Na, *Computational Methods in Engineering Boundary Value Problems*, vol. 145 of *Mathematics in Science and Engineering*, Academic Press, New York, NY, USA, 1979.
- [145] I. P. Natanson, *Theorie der Funktionen einer reellen Veränderlichen. Herausgegeben von Karl Bögel. 4. Aufl.*, Mathematische Lehrbücher und Monographien, Akademie, Berlin, Germany, 1975.
- [146] M. N. Nkashama and J. Santanilla, "Existence of multiple solutions for some nonlinear boundary value problems," *Journal of Differential Equations*, vol. 84, no. 1, pp. 148–164, 1990.
- [147] A. Nowakowski and A. Orpel, "Positive solutions for a nonlocal boundary-value problem with vector-valued response," *Electronic Journal of Differential Equations*, vol. 2002, no. 46, pp. 1–15, 2002.
- [148] P. Omari and W. Y. Ye, "Necessary and sufficient conditions for the existence of periodic solutions of second-order ordinary differential equations with singular nonlinearities," vol. 8, no. 7, pp. 1843–1858, 1995.
- [149] D. O'Regan, "Some general existence principles and results for $(\phi(y'))' = qf(t, y, y')$, $0 < t < 1$," *SIAM Journal on Mathematical Analysis*, vol. 24, no. 3, pp. 648–668, 1993.
- [150] D. O'Regan, *Theory of Singular Boundary Value Problems*, World Scientific, River Edge, NJ, USA, 1994.
- [151] S. V. Parter, M. L. Stein, and P. R. Stein, "On the multiplicity of solutions of a differential equation arising in chemical reactor theory," Tech. Rep. 194, Department of Computer Sciences, University of Wisconsin, Madison, Wis, USA, 1973.
- [152] N. Perrone and R. Kao, "A general nonlinear relaxation iteration technique for solving nonlinear problems in mechanics," *Journal of Applied Mechanics*, vol. 38, pp. 371–378, 1971.
- [153] N. Phan-Thien, "A method to obtain some similarity solutions to the generalized Newtonian fluid," *Zeitschrift für Angewandte Mathematik und Physik*, vol. 32, no. 5, pp. 609–615, 1981.
- [154] L. C. Piccinini, G. Stampacchia, and G. Vidossich, *Ordinary Differential Equations in \mathbb{R}^n* , vol. 39 of *Applied Mathematical Sciences*, Springer, New York, NY, USA, 1984.
- [155] V. Polášek and I. Rachůnková, "Singular periodic problem for nonlinear ordinary differential equations with ϕ -Laplacian," *Electronic Journal of Differential Equations*, vol. 2006, no. 27, pp. 1–12, 2006.
- [156] I. Rachůnková, "Upper and Lower Solutions and Topological Degree," *Journal of Mathematical Analysis and Applications*, vol. 234, no. 1, pp. 311–327, 1999.
- [157] I. Rachůnková, "Existence of two positive solutions of a singular nonlinear periodic boundary value problem," *Journal of Computational and Applied Mathematics*, vol. 113, no. 1–2, pp. 27–34, 2000.

- [158] I. Rachůnková, "On the existence of more positive solutions of periodic BVPs with singularity," *Applicable Analysis*, vol. 79, no. 1-2, pp. 257–275, 2001.
- [159] I. Rachůnková, "Singular mixed boundary value problem," *Journal of Mathematical Analysis and Applications*, vol. 320, no. 2, pp. 611–618, 2006.
- [160] I. Rachůnková, O. Koch, G. Pulverer, and E. Weinmüller, "On a singular boundary value problem arising in the theory of shallow membrane caps," *Journal of Mathematical Analysis and Applications*, vol. 332, no. 1, pp. 523–541, 2007.
- [161] I. Rachůnková and S. Staněk, "Sturm-Liouville and focal higher order BVPs with singularities in phase variables," *Georgian Mathematical Journal*, vol. 10, no. 1, pp. 165–191, 2003.
- [162] I. Rachůnková and S. Staněk, "General existence principle for singular BVPs and its application," *Georgian Mathematical Journal*, vol. 11, no. 3, pp. 549–565, 2004.
- [163] I. Rachůnková and S. Staněk, "A singular boundary value problem for odd-order differential equations," *Journal of Mathematical Analysis and Applications*, vol. 291, no. 2, pp. 741–756, 2004.
- [164] I. Rachůnková and S. Staněk, "Zeros of derivatives of solutions to singular $(p, n - p)$ conjugate BVPs," *Acta Universitatis Palackianae Olomucensis. Facultas Rerum Naturalium. Mathematica*, vol. 43, pp. 137–141, 2004.
- [165] I. Rachůnková, S. Staněk, and M. Tvrđý, "Singularities and laplacians in boundary value problems for nonlinear ordinary differential equations," in *Handbook of Differential Equations. Ordinary Differential Equations*, A. Cañada, P. Drábek, and A. Fonda, Eds., vol. 3, pp. 607–723, Elsevier, New York, NY, USA, 2006.
- [166] I. Rachůnková and J. Stryja, "Singular Dirichlet BVP for second order ODE," *Georgian Mathematical Journal*, vol. 14, no. 2, pp. 325–340, 2007.
- [167] I. Rachůnková and J. Stryja, "Dirichlet problem with ϕ -Laplacian and mixed singularities," *Nonlinear Oscillations*, vol. 11, no. 1, pp. 81–95, 2008.
- [168] I. Rachůnková and J. Stryja, "Lower and upper functions in singular Dirichlet problem with ϕ -Laplacian," submitted.
- [169] I. Rachůnková and M. Tvrđý, "Nonlinear systems of differential inequalities and solvability of certain boundary value problems," *Journal of Inequalities and Applications*, vol. 6, no. 2, pp. 199–226, 2001.
- [170] I. Rachůnková and M. Tvrđý, "Construction of lower and upper functions and their application to regular and singular periodic boundary value problems," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 47, no. 6, pp. 3937–3948, 2001.
- [171] I. Rachůnková and M. Tvrđý, "Periodic problems with ϕ -Laplacian involving non-ordered lower and upper functions," *Fixed Point Theory*, vol. 6, no. 1, pp. 99–112, 2005.
- [172] I. Rachůnková and M. Tvrđý, "Periodic singular problem with quasilinear differential operator," *Mathematica Bohemica*, vol. 131, no. 3, pp. 321–336, 2006.
- [173] I. Rachůnková, M. Tvrđý, and I. Vrkoč, "Existence of nonnegative and nonpositive solutions for second order periodic boundary value problems," *Journal of Differential Equations*, vol. 176, no. 2, pp. 445–469, 2001.
- [174] I. Rachůnková, M. Tvrđý, and I. Vrkoč, "Resonance and multiplicity in periodic boundary value problems with singularity," *Mathematica Bohemica*, vol. 128, no. 1, pp. 45–70, 2003.
- [175] G. W. Reddien, "Finite-difference approximations to singular Sturm-Liouville eigenvalue problems," *Mathematics and Computers in Simulation*, vol. 30, no. 134, pp. 278–282, 1976.
- [176] P. Rentrop, "Numerical solution of the singular Ginzburg-Landau equations by multiple shooting," *Computing*, vol. 16, no. 1-2, pp. 61–67, 1976.
- [177] A. A. Samarskii, V. A. Galaktionov, S. P. Kurdyumov, and A. P. Mikhailov, *Blow-up in quasilinear parabolic equations*, vol. 19 of *de Gruyter Expositions in Mathematics*, Walter de Gruyter, Berlin, Germany, 1995.
- [178] L. Sanchez, "Positive Solutions for a Class of Semilinear Two-Point Boundary Value Problems," *Bulletin of the Australian Mathematical Society*, vol. 45, no. 3, pp. 439–451, 1992.

- [179] G. Scorza Dragoni, "Il problema dei valori ai limiti studiato in grande per gli integrali di una equazione differenziale del secondo ordine," *Giornale di Matematiche di Battaglini*, vol. 69, pp. 77–112, 1931.
- [180] G. E. Shilov and B. L. Gurevich, *Integral, Measure and Derivative: A Unified Approach*, Dover, New York, NY, USA, Revised English edition, 1977.
- [181] S. Solimini, "On Forced Dynamical Systems with a Singularity of Repulsive Type," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 14, no. 6, pp. 489–500, 1990.
- [182] R. Srzednicki, "Ważewski method and Conley index," in *Handbook of Differential Equations*, A. Cañada, P. Drábek, and A. Fonda, Eds., vol. 1, pp. 591–684, Elsevier/North-Holland, Amsterdam, The Netherlands, 2004.
- [183] S. Staněk, "Periodic boundary value problem for second order functional differential equations," *Mathematical Notes*, vol. 1, no. 1, pp. 63–81, 2000.
- [184] S. Staněk, "On solvability of singular periodic boundary-value problems," *Nonlinear Oscillations*, vol. 4, no. 4, pp. 529–538, 2001.
- [185] S. Staněk, "Positive solutions of singular positive Dirichlet boundary value problems," *Mathematical and Computer Modelling*, vol. 33, no. 4-5, pp. 341–351, 2001.
- [186] S. Staněk, "A nonlocal singular boundary value problem for second-order differential equations," *Mathematical Notes*, vol. 5, no. 1, pp. 91–104, 2004.
- [187] S. Staněk, "A nonlocal boundary value problems with singularities in phase variables," *Mathematical and Computer Modelling*, vol. 40, no. 1-2, pp. 101–116, 2004.
- [188] S. Staněk, "Singular nonlocal boundary value problems," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 63, no. 5–7, pp. e277–e287, 2005.
- [189] S. Staněk, "General existence principle for singular BVPS depending on a parameter and its application," *Functional Differential Equations*, vol. 13, no. 3-4, pp. 637–656, 2006.
- [190] S. Staněk and O. Přibyl, "Singular antiperiodic boundary value problem with given maximal values for solutions," *Functional Differential Equations*, vol. 14, no. 2–4, pp. 403–421, 2007.
- [191] G. Talenti, "Best constant in Sobolev inequality," *Annali di Matematica Pura ed Applicata*, vol. 110, pp. 353–372, 1976.
- [192] S. D. Taliaferro, "A nonlinear singular boundary value problem," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 3, no. 6, pp. 897–904, 1979.
- [193] P. J. Torres, "Bounded solutions in singular equations of repulsive type," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 32, no. 1, pp. 117–125, 1998.
- [194] P. J. Torres, "Existence of one-signed periodic solutions of some second-order differential equations via a Krasnoselskii fixed point theorem," *Journal of Differential Equations*, vol. 190, no. 2, pp. 643–662, 2003.
- [195] P. J. Torres, "Existence and uniqueness of elliptic periodic solutions of the Brillouin electron beam focusing system," *Mathematical Methods in the Applied Sciences*, vol. 23, no. 13, pp. 1139–1143, 2000.
- [196] N. I. Vasiliev and Yu. A. Klovov, *Foundation of the Theory of Boundary Value Problems for Ordinary Differential Equations*, Zinatne, Riga, Russia, 1978.
- [197] J. Y. Wang, "Solvability of singular nonlinear two-point boundary value problems," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 24, no. 4, pp. 555–561, 1995.
- [198] J. Y. Wang and J. Jiang, "The existence of positive solutions to a singular nonlinear boundary value problem," *Journal of Mathematical Analysis and Applications*, vol. 176, no. 2, pp. 322–329, 1993.
- [199] J. Wang and W. Gao, "A singular boundary value problem for the one-dimensional p -Laplacian," *Journal of Mathematical Analysis and Applications*, vol. 201, no. 3, pp. 851–866, 1996.
- [200] Z. Wei, "Existence of positive solutions for $2n$ th-order singular sublinear boundary value problems," *Journal of Mathematical Analysis and Applications*, vol. 306, no. 2, pp. 619–636, 2005.

- [201] P. J. Y. Wong and R. P. Agarwal, "Results and estimates on multiple solutions of Lidstone boundary value problems," *Acta Mathematica Hungarica*, vol. 86, no. 1-2, pp. 137–168, 2000.
- [202] P. Yan, "Nonresonance for one-dimensional p -Laplacian with regular restoring," *Journal of Mathematical Analysis and Applications*, vol. 285, no. 1, pp. 141–154, 2003.
- [203] P. Yan and M. Zhang, "Higher order non-resonance for differential equations with singularities," *Mathematical Methods in the Applied Sciences*, vol. 26, no. 12, pp. 1067–1074, 2003.
- [204] M. Zhang, "Periodic solutions of Liénard equations with singular forces of repulsive type," *Journal of Mathematical Analysis and Applications*, vol. 203, no. 1, pp. 254–269, 1996.
- [205] M. Zhang, "Nonuniform nonresonance at the first eigenvalue of the p -Laplacian," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 29, no. 1, pp. 41–51, 1997.
- [206] M. Zhang, "A relationship between the periodic and the Dirichlet BVPs of singular differential equations," *Proceedings of the Royal Society of Edinburgh. Section A*, vol. 128, no. 5, pp. 1099–1114, 1998.
- [207] M. Zhang, "Periodic solutions of damped differential systems with repulsive singular forces," *Proceedings of the American Mathematical Society*, vol. 127, no. 2, pp. 401–407, 1999.
- [208] Z. Zhao, "On the existence of positive solutions for $2n$ -order singular boundary value problems," *Nonlinear Analysis: Theory, Methods & Applications*, vol. 64, no. 11, pp. 2553–2561, 2006.
- [209] N. V. Zmitrenko, S. P. Kurdyumov, A. P. Mikhailov, and A. A. Samarski, "Localization of thermonuclear combustion in a plasma with electronic thermal conductivity," *JETP Letters*, vol. 26, no. 9, pp. 469–472, 1977.