REFERENCES

Abell, M. L. and Braselton, J.P., 2019, *Introductory Differential Equations*, 5th Edition, Academic Press.

Al-Dosary, K. I. T., 2010, Inverse integrating factor for classesof planar differential systems. *International Journal of Mathematical Analysis*, No. 29, Vol. 4, p. 1433–1446.

Anacleto, M. and Vidal, C., 2020, Dynamics of a delayed predator-prey model with allee effect and holling type II functional response. *Mathematical Methods in the Applied Sciences*, Vol. 43, No. 9, p. 5708–5728,

Arditi, R., Abillon, J. M. and da Silva, J. V., 1977, The effect of a time-delay in a predator-prey model. *Mathematical Biosciences*, Vol. 33, No. 1-2, p. 107–120.

Arnold, V. I., Gusein-Zade, S. M., and Varchenko, A. N., 2012, *Singularities of Differentiable Maps*, Vol. 2, Birkhäuser Boston.

Atay, F. M., 1998, Van der pol's oscillator under delayed feedback. *Journal of Sound and Vibration*, Vol. 218, No. 2, p. 333–339.

Bellman, R. and Cook, K. L., 1963, *Mathematics in Science and Engineering. A series of Monographs and Textbooks. Differential-Difference Equations*, Vol. 6, 1st edition. Academic Press Inc.

Bender, C. M. and Orszag, S. A., 2013, *Advanced mathematical methods for scientists and engineers I: Asymptotic methods and perturbation theory*. Springer Science & Business Media.

Binatari, N., Adi-Kusumo, F. and Aryati. L., 2022, Stability regions and bifurcation analysis of a delayed predator-prey model caused from gestation period, *International Journal of Differential Equations*, Vo. 2022, p. 1–10.

Binatari, N., Horssen, W., Verstraten, P., Adi-Kusumo, F. & Aryati, L. On the multiple time-scales perturbation method for differential-delay equations. *Nonlinear Dynamics*. **112**, 8431-8451 (2024,4)

Bogolyubov, N. N, 2020, Perturbation theory, 2020.

Boussaada, I. and Niculescu, S. I., 2018, On the dominancy of multiple spectral values for time-delay systems with applications. *IFAC Papers OnLine*, Vol. 51, No. 14, p. 55–60, 14th IFAC Workshop on Time Delay Systems.

Breda, D., Menegon, G. and Nonino, M., 2018, Delay equations and characteristic roots: stability and more from a single curve. *Electronic Journal of Qualitative Theory of Differential Equations*, Vol. 2018, No. 89, p. 1–22.

Brown, J. W., Churchill,, R. V., et al, 2009, *Complex variables and applications*. McGraw-Hill Higher Education, Boston.

Burton, T. A., 1978, *Stability and Periodic Solutions of Ordinary and Functional*, Vol. 178. Dover Publications.

Cahlon, B. and Schmidt, D., 2004, Stability criteria for certain second-order delay differential equations with mixed coefficients. *Journal of Computational and Applied Mathematics*, Vol. 170, No. 1, p. 79–102.

Çelik C., 2008, The stability and hopf bifurcation for a predator–prey system with time delay. *Chaos, Solitons & Fractals*, Vol. 37, No. 1, p. 87–99.

Chow, Y. K., 2001, Melnikov's method with applications. Master's thesis, The University of British Columbia.

Cimen, E. and Uncu, S., 2020, On the solution of the delay differential equation via laplace transform. *Communications in Mathematics and Applications*, Vol. 11, No. 3, p. 379–387..

Cooke, K. L. and van den Driessche, P., 1986, On zeroes of some transcendental equations. *The Funkcialaj Ekvacioj*.

Corless., 1996, On the LambertW function. *Advances in Computational Mathematics*, Vol. 5, No. 1, p. 329-359..

Das, S. L. and Chatterjee, A., 2002, Multiple scales without center manifold reductions for delay differential equations near hopf bifurcations. *Nonlinear Dynamics*, Vol. 30, No. 4, p. 323–335.

Das, S. L. and Chatterjee, A., 2005, Second order multiple scales for oscillators with large delay. *Nonlinear Dynamics*, Vol. 39, No. 4, p. 375–394.

Dence, T. P., 2013, A brief look into the lambert w function. *Applied Mathematics*, Vol. 04, No. 06, p. 887–892.

Duffy, D. G., 2004, *Transform methods for solving partial differential equations*. Chapman and Hall/CRC, 2nd Edition.

Erneux, T., 2005, Multiple time scale analysis of delay differential equations modeling mechanical systems. In *Volume 6: 5th International Conference on Multibody Systems, Nonlinear Dynamics, and Control, Parts A, B, and C*. ASMEDC.

Erneux, T., 2009, *Applied delay differential equations*, Vol. 3, Springer Science & Business Media.

Fadai, N. T., Johnston, S. T., and Simpson, M. J., 2020, Unpacking the allee effect: determining individual-level mechanisms that drive global population dynamics. *Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences*, Vol. 476, No. 2241.

Freedman, H. I. and Waltman, P., 1975, Perturbation of two-dimensional predator-prey equations. *SIAM Journal on Applied Mathematics*, Vol. 28, No. 1, p. 1–10.

Ghouli, Z., Hamdi, M. and Belhaq, M., 2019, The delayed van der pol oscillator and energy harvesting. In *Springer Proceedings in Physics*, p. 89–109. Springer Singapore.

Glass, D. S., Xiaofan Jin, X. and Riedel-Kruse, I. H., 2021, Nonlinear delay differential equations and their application to modeling biological network motifs. *Nature Communications*, Vol. 12, No. 1.

Grossi, M., 2018, A morse lemma for degenerate critical points of solutions of nonlinear equations in r2. *Advanced Nonlinear Studies*, Vol. 20, p. 1 – 18.

Hale, J. K., 1966, Averaging methods for differential equations with retarded arguments and a small parameter. *Journal of Differential Equations*, Vol. 2, No. 1, p. 57–73.

Hale, J. K., 1971, *Functional Differential Equations*. Springer US.

Hale, J. K. and Lunel, S. M. L., 1973, *Introduction to Functional Differential Equations*. Applied Mathematical Sciences. Springer New York, 1993.

Hamdi, M. and Belhaq, M., 2015, Quasi-periodic vibrations in a delayed van der pol oscillator with time-periodic delay amplitude. *Journal of Vibration and Control*, Vol. 24, No. 24, p. 5726–5734.

Haque, M., Sarwardi, S., Preston, S., and Venturino, E., 2011, Effect of delay in a lotka–volterra type predator–prey model with a transmissible disease in the predator species. *Mathematical Biosciences*, Vol. 234. No. 1, p. 47–57.

Hayes, N. D., 1950, Roots of the transcendental equation associated with a certain difference-differential equation. *Journal of the London Mathematical Society*, Vol. s1-25. No. 3, p. 226–232.

Holmes, M. H., 2013, *Introduction to Perturbation Methods*. Springer New York.

Hoppensteadt, F. C. and Miranker, W. L., 1977, Multitime methods for systems of difference equations. *Studies in Applied Mathematics*, Vol. 56, No. 3, p. 273–289.

Huang, C., 2018, Multiple scales scheme for bifurcation in a delayed extended van der pol oscillator. *Physica A: Statistical Mechanics and its Applications*, Vol. 490, p. 643–652.

Insperger, T. and Stépán, G., 2002, Stability chart for the delayed mathieu equation. *Proceedings of the Royal Society of London. Series A: Mathematical, Physical and Engineering Sciences*, Vol. 458, No. 2024, p. 1989–1998.

Insperger, T. and Stépán, G., 2003, Stability of the damped mathieu equation with time delay. *Journal of Dynamic Systems, Measurement, and Control*, Vol. 125, No. 2, p. 166–171.

Kalmár-Nagy, T., 2009, Stability analysis of delay-differential equations by the method of steps and inverse laplace transform. *Differential Equations and Dynamical Systems*, Vol. 17, No. 1-2, p. 185–200.

Katsikadelis, J. T., 2002, *Boundary elements: theory and applications*. Elsevier.

Kerr, G. and González-Parra,G., 2022, Accuracy of the laplace transform method for linear neutral delay differential equations. *Mathematics and Computers in Simulation*, Vol. 197, p. 308–326.

Kevorkian, J. and Cole, J. D., 1996, *Multiple Scale and Singular Perturbation Methods*. Springer New York.

Kuang, Y. 1993, *Delay Differential Equations: With Applications in Population Dynamics*. Elsevier Science.

Lakshmanan, M. and Senthilkumar, D. V., 2011, *Dynamics of Nonlinear Time-Delay Systems*. Springer Series in Synergetics. Springer Berlin Heidelberg.

Li, D., Liu, H., Zhang, H., Ma, M., Ye, Y. and Wei, Y., 2023, Bifurcation analysis in a predator-prey model with an allee effect and a delayed mechanism. *Acta Mathematica Scientia*, Vol. 43, No. 3, p. 1415–1438.

Liu, W. and Jiang, Y., 2018, Bifurcation of a delayed gause predator-prey model with michaelis-menten type harvesting. *Journal of Theoretical Biology*, Vol. 438, p. 116–132.

Lotka, A. J., 1910, Contribution to the theory of periodic reactions. *The Journal of Physical Chemistry*, Vol. 14, No. 3, p. 271–274.

Mackey, M. & Glass, L. 1977, Oscillation and Chaos in Physiological Control Systems. *Science*. **197**, 287-289.

Michiels, W. and Niculescu, S. I., 2014, Stability, control, and computation for time-delay systems - an eigenvalue-based approach (2nd Ed.). In *Advances in design and control*.

Milnor, J., 1963, *Morse Theory*. Princeton University Press.

Morrison, T. M. and Rand, R. H., 2007, Resonance in the delayed nonlinear mathieu equation. *Nonlinear Dynamics*, Vol. 50, No. 1-2, p. 341–352.

Murdock, J., 1983, Some asymptotic estimates for higher-order averaging and a comparison with iterated averaging. *SIAM Journal of Mathematical Analysis*, Vol. 14, No. 3, p. 421–424.

Murdock, J. and Wang, L. C., 1996, Validity of the multiple scale method for very long intervals. *ZAMP Zeitschrift fur angewandte Mathematik und Physik*, Vol. 47, No. 5, p. 760–789.

Murdock, J., 1999, *Perturbations: theory and methods*. SIAM.

Nandakumar, K., Wahi, P. and Chatterjee, A., 2010, Infinite dimensional slow modulations in a well known delayed model for cutting tool vibrations. *Nonlinear Dynamics*, Vol. 62, No. 4, p. 705–716.

Nayfeh, A. H., 2008, *Perturbation Methods*. Physics textbook. Wiley.

Nayfeh, A. H., 2011, *Introduction to perturbation techniques*. John Wiley & Sons.

Nelson, P., 2013, *Dynamical Systems Theory, Delay Differential Equations*, pages 637–641. Springer New York, New York, NY.

Perko, L., 2001, *Differential Equations and Dynamical Systems*. Springer New York.

Perko, L., 1969, Higher order averaging and related methods for perturbed periodic and quasi-periodic systems. *SIAM Journal on Applied Mathematics*, Vol. 17, No. 4, p. 698–724.

Pinney, E., 1958, *Ordinary Difference-Differential Equations*. University of California Press.

Poincare, H., 1959, *New Methods of Celestial Mechanics*, volume I and II of *NASA technical translations, F-450*. National Aeronautics and Space Administration.

Pontryagin, L. S., 1959, On the zeros of some transcendental functions.

Rafei, M. and van Horssen, W. T., 2012, Solving systems of nonlinear difference equations by the multiple scales perturbation method. *Nonlinear Dynamics*, Vol. 69, No. 4, p. 1509–1516.

Reyn, J. W. and van Horssen, W. T., 1995, Bifurcation of limit cycles in a particular class of quadratic systems. *Differential and Integral Equations*, Vol. 8, No. 4, p. 907 – 920.

Ruan, S. and Wei, J., 2003, On the zeros of transcendental functions with applications to stability of delay differential equations with two delays. *Dynamics of Continuous, Discrete and Impulsive Systems Series A: Mathematical Analysis*, Vol. 10, no. 6, p. 863–874.

Sah, S. M. and Rand, R. H., 2018, Three ways of treating a linear delay differential equation. In *Springer Proceedings in Physics*, pages 251–257. Springer International Publishing.

Saha, A., Bhattacharya, B. and Wahi, P., 2009, A comparative study on the control of friction-driven oscillations by time-delayed feedback. *Nonlinear Dynamics*, Vol. 60, No. 1-2, p. 15–37.

Sahoo, B. and Poria, S., 2015, Effects of additional food in a delayed predator–prey model. *Mathematical Biosciences*, Vol. 261, p. 62–73.

Sanders, J. A., Verhulst, F., and Murdock, J., 2007, *Averaging methods in nonlinear dynamical systems*, volume 59. Springer.

Schiff, J. L., 1999, *The Laplace Transform*. Springer New York.

Shaw, S., 2001, *PERTURBATION TECHNIQUES FOR NONLINEAR SYSTEMS*, pages 1009–1011. Elsevier.

Sherman, M., Kerr, G. and Gonzalez-Parra, G. 2023, Analytical solutions of linear delay-differential equations with dirac delta function inputs using the laplace transform. *Computational and Applied Mathematics*, Vol. 42, No. 6.

Smith, H., 2010, *An Introduction to Delay Differential Equations with Applications to the Life Sciences*. Springer.

Subramanian, R. and Krishnan, A., 1979, Non-linear discrete time systems analysis by multiple time perturbation techniques, *Journal of Sound and Vibration*, Vol. 63, No. 3, p. 325–335.

van Horssen, W. T and ter Brake, M., 2009, On the multiple scales perturbation method for difference equations, *Nonlinear Dynamics*, Vol. 55, No. 4, p. 401–418.

van horssen, W. T. and Kooij, R. E., 1994, Bifurcation of limit cycles in a particular class of quadratic systems with two centers, *Journal of Differential Equations*, Vol. 114, No. 2, p. 538–569.

Verhulst, F., 1996, *Nonlinear Differential Equations and Dynamical Systems*, Springer Berlin Heidelberg.

Verhulst, F., 2005, *Methods and Applications of Singular Perturbations*, Springer New York.

Verstraten, P., 2019, A perturbation method for delay differential equations, thesis, TU Delft.

Wahi, P. and Chatterjee, A., 2005, Regenerative tool chatter near a codimension 2 hopf point using multiple scales. *Nonlinear Dynamics*, Vol. 40, No. 4, p. 323–338.

Wang, H. and Hu, H., 2003, Remarks on the perturbation methods in solving the second-order delay differential equations. *Nonlinear Dynamics*, Vol. 33, No. 4, p. 379–398.

Wirkus, S. and Rand, R., 2002, The dynamics of two coupled van der pol oscillators with delay coupling. *Nonlinear Dynamics*, Vol. 30, No. 3, p. 205–221.

Woldaregay, M. M., 2022, Solving singularly perturbed delay differential equations via fitted mesh and exact difference method, *Research in Mathematics*, Vol. 9, No. 1.

Wright, E. M., 1946, The non-linear difference-differential equation. *The Quarterly Journal of Mathematics*, Vol. 17, No. 1, p. 245–252.

Yan, X. P. and Chu, Y. D., 2006, Stability and bifurcation analysis for a delayed lotka–volterra predator–prey system. *Journal of Computational and Applied Mathematics*, Vol. 196, No. 1, p. 198–210.

Ye, Y., Liu, H., Wei, Y., Zhang, K., Ma, M. and Ye, J., 2019, Dynamic study of a predator-prey model with allee effect and holling type-i functional response. *Advances in Difference Equations*, Vol. 2019, No. 1.

Zelei, A., Milton, J., Stepan, G. and Insperger, T., 2021, Response to perturbation during quiet standing resembles delayed state feedback optimized for performance and robustness. *Scientific Reports*, Vol. 11, No. 1.

Zhang, J. F. and Huang, F., 2014, Nonlinear dynamics of a delayed leslie predator–prey model. *Nonlinear Dynamics*, Vol. 77, No. 4, p. 1577–1588.

Zoladek, H., Melnikov functions in quadratic perturbations of generalized lotka-volterra systems. *Journal of Dynamical and Control Systems*, Vol. 21, No. 4, p. 573–603.

Zwillinger, D., 1997, Handbook of differential equations, 3rd edition. Academic Press.