List of selected Publications

A. PAPERS IN JOURNALS WITH PEER-REVIEW

1. Tsiatsios G-A., Leventides J., Melas E., Poulios C., (2023). A bounded rational agent-based model of consumer choice. Data Science in Finance and Economics vol. **3**, no. 3, p. 305-323. http://www.aimspress.com/article/doi/10.3934/DSFE.2023018

2. Leventides J., Melas E., Poulios C. (2023). Extended dynamic mode decomposition for two paradigms of non-linear dynamical systems, Journal of the Franklin Institute vol. **360**, no. 3, p. 2234-2264. https://doi.org/10.1016/j.jfranklin.2022.10.024.

3. Leventides J., Poulios C., Camouzis E. (2022). A discrete dynamics approach to interbank financial contagion. IMA Journal of Mathematical Control and Information 39, 409-442.

4. Leventides J., Poulios N., Poulios C. (2022). Random matrices and controllability of dynamical systems. IMA Journal of Mathematical Control and Information 39, 371-382.

5. Leventides J, Melas E, Poulios C. (2022). Extended dynamic mode decomposition for cyclic macroeconomic data. Data Science in Finance and Economics AIMS 2(2), 117146.

6. Leventides J., Melas E., Poulios C., Boufounou P., Leventides R-A. (2021). Designing GDP-linked Bonds with default. Applied Economics Quarterly, vol. **67**, no. 4, p. 311-335 https://elibrary.duncker-humblot.com/doi:10.3790/aeq.67.4.311

7. Leventides J, Melas E, Poulios C, Leventides R-A. (2021). Mapping GDP-linked bonds: the case of the Greek economy. KEPE Greek Economic Outlook 46, 49-62.

8. Leventides J, Poulios C. (2021). Koopman operators and the 3+1-Dynamical System. SIAM Journal on Applied Dynamical Systems (SIADS) 20(4), 1773-1813.

9. Leventides J, Melas E. (2021). Diffusion bank networks and capital flows. Mathematics and Financial Economics 15, 811-845.

10. Leventides J, Poulios C, Tsiatsios G-A, Livada M, Tsipras S, Lefcaditis K, Sargenti P, Sargenti A. (2021). Systems theory and analysis of the implementation of nonpharmaceutical policies for the mitigation of the COVID-19 pandemic. Journal of Dynamics and Games AIMS 8(3), 167-186.

11. Demetriou I.C. (2021). A algorithm for the discrete best monotonic approximation problem. Econometrics and Statistics 17, 130-144.

12. Demetriou I.C. (2022). A binary search algorithm for univariate data approximation and estimation of extrema by piecewise monotonic constraints. Journal of Global Optimization 82, 691-726.

13. Demetriou I.C. (2020). Separation theorems for the extrema of best piecewise monotonic approximations to successive data, Optimization methods and Software 35(3), 439-459.

B. Chapters in Edited Books

14. Leventides J, Livada M, Poulios C. (2020). The dynamics of interbank networks. In: Rassias MTh, Raigorodskii A (eds), Discrete Mathematics and Applications, Springer Optimization and Its Applications 165, 369-395.

15. Leventides J (2020). A new embedding of the 3+1-dynamical system. In: Rassias MTh, Raigorodskii A (eds), Discrete Mathematics and Applications, Springer Optimization and Its Applications 165, 305-337.

16. Leventides J, Poulios N. (2020). Diffusion on Dynamical Interbank Loan Networks. In: Rassias MTh, Raigorodskii A (eds), Discrete Mathematics and Applications, Springer Optimization and Its Applications 165, 369-395.

17. Demetriou I.C. (2015). On the Sensitivity of Least Squares Data Fitting by Nonnegative Second Divided Differences. In: Migdalas A, Karakitsiou A. (eds), Optimization, Control, and Applications in the Information Age. Springer Proceedings in Mathematics & Statistics, vol 130. Springer, Cham.

C. Papers in Conferences with peer-review

18. Tsiatsios G-A., Melas E., Poulios C., Leventides J. (2023). Understanding money distributions in closed economic systems: a graph theoretical approach with quantum random walks. 5th International Conference on Industrial Artificial Intelligence, August 21-24, 2023, Shenyang, Liaoning, China.

19. Tsiatsios G-A., Leventides J., Melas E., Poulios C., (2023). Simulating Market Concentration and Capital Distribution: Insights into Firm Dynamics and Economic Inequality. 5th International Conference on Industrial Artificial Intelligence, August 21-24, 2023, Shenyang, Liaoning, China.

20. Leventides J, Melas E, Poulios C. (2022). EDMD methods for analysis and prediction of bilinear compartmental models. 4th International Conference on Industrial Artificial Intelligence, August 24-27, 2022, Shenyang, Liaoning, China.

21. Leventides J, Melas E, Poulios C. (2022). Koopman operators and extended dynamic mode decomposition for the inverted pendulum. 4th International Conference on Industrial Artificial Intelligence, August 24-27, 2022, Shenyang, Liaoning, China.

22. Leventides J, Melas E, Poulios C. (2022). Koopman operators and extended dynamic mode decomposition for a pair of forward and reverse chemical reactions which occur simultaneously. 4th International Conference on Industrial Artificial Intelligence, August 24-27, 2022, Shenyang, Liaoning, China.

23. Leventides J, Melas E, Poulios C. (2022). Data arising from hyperchaotic financial systems. Control through Koopman operators and EDMD. 4th International Conference on Industrial Artificial Intelligence, August 24-27, 2022, Shenyang, Liaoning, China.

24. Leventides J, Poulios C. (2021). An operator theoretic approach to the 3x+1-dynamical system. IFAC-PapersOnLine, 54(9), 225-230. Proceedings of the 24th International Symposium on Mathematical Theory of Networks and Systems MTNS 2020, Cambridge, United Kingdom.
https://doi.org/10.1016/j.ifacol.2021.06.079

25. Leventides J, Poulios C. (2021). Dynamical systems and interbank networks. IFACPapersOnLine, 54(9), 90-94. Proceedings of the 24th International Symposium on Mathematical Theory of Networks and Systems MTNS 2020, Cambridge, United Kingdom.
https://doi.org/10.1016/j.ifacol.2021.06.066

26. Leventides J. (2021). A direct system for the 3+1 dynamics. IFAC-PapersOnLine, 54(9), 291-296. Proceedings of the 24th International Symposium on Mathematical Theory of Networks and Systems MTNS 2020, Cambridge, United Kingdom.