Listă Publicații - Mircea Șușcă

December 27, 2023

Maximum 10 lucrări considerate a fi cele mai relevante pentru realizările profesionale proprii:

1. V. Mihaly, **M. Șușcă**, P. Dobra, Maximizing the Exponential Decay Rate for Finite Dimensional Bilinear Systems using Passivity-Based Controllers, *2023 62nd IEEE Conference on Decision and Control (CDC)*, December 13-15, 2023, Marina Bay Sands, Singapore.

2. **M. Șușcă**, V. Mihaly, P. Dobra, Nonconvex Valid Uncertainty Modelling Approach for Robust Control Synthesis, *2023 27th International Conference on System Theory, Control and Computing (ICSTCC)*, Timisoara, Romania, 2023, pp. 269-276.

3. V. Mihaly, **M. Șușcă**, P. Dobra, Exponential Rate for Bilinear Systems via Passivity-Based Controllers, *IEEE Conf. on Control Technology and Applications (CCTA)*, Bridgetown, Barbados, 16-18 August 2023, doi:10.1109/CCTA54093.2023.10252414.

4. **M. Șușcă**, V. Mihaly, P. Dobra, Uncertainty Modelling of Mechanical Systems with Derivative Behaviour for Robust Control Synthesis, *IEEE European Control Conference*, Bucharest, Romania, 13-16 June 2023, doi:978-3-907144-09-1 ©2023 EUCA.

5. V. Mihaly, **M. Șușcă**, P. Dobra, Low-Order Representation of Robust Fractional-Order Controllers for Fractional-Order Interval Plants, *IEEE European Control Conference*, Bucharest, Romania, 13-16 June 2023, doi:978-3-907144-09-1 ©2023 EUCA.

6. **M. Șușcă**, V. Mihaly, P. Dobra, Maintaining Robust Stability and Performance through Sampling and Quantization, *IEEE American Control Conference*, San Diego, CA, USA, 31 May - 02 June 2023, doi:979-8-3503-2807-3/\$31.00 ©2023 AACC.

7. V. Mihaly, **M. Șușcă**, P. Dobra, Reduced-Order Approximation of Frac-tional-Order Controllers by keeping Robust Stability and Robust Performance, *IEEE American Control Conference*, San Diego, CA, USA, 31 May - 02 June 2023, doi:979-8-3503-2807-3/\$31.00 ©2023.

8. **M. Șușcă**, V. Mihaly, P. Dobra, Sampling rate selection for multi-loop cascade control systems in an optimal manner, *IET Control Theory & Applications, Wiley*, 07 March 2023, doi:10.1049/cth2.12444.

9. **M. Șușcă**, V. Mihaly, P. Dobra, Fixed-Point Uniform Quantization Analysis for Numerical Controllers, *2022 61st IEEE Conference on Decision and Control (CDC)*, Cancún, Mexico, Dec. 6-9, 2022, doi:10.1109/CDC 51059.2022.9993223.

10. **M. Șușcă**, V. Mihaly, D. Morar, P. Dobra, Sampling Rate Optimization and Execution Time Analysis for Two-Degrees-of-Freedom Control Systems, Mathematics 2022, 10(19), 3449, doi:10.3390/math 10193449.

Lucrările de cercetare publicate, nemenționate anterior:

1. Isabela R. Birs; Cristina I. Muresan; **M. Șușcă** et al., Context-Aware Control for Quality Improvement in Liquid Steel Manufacturing, *2023 IEEE Conference on Control Technology and Applications (CCTA)*, Bridgetown, Barbados, 2023, pp. 514-519, doi: 10.1109/CCTA54093.2023.10252432.

2. D. Morar, V. Mihaly, **M. Șușcă**, P. Dobra, Cascade Control for Two-Axis Position Mechatronic Systems, *Fractal and Fractional*, Applications of Fractional-Order Calculus in Robotics, 7(2), 122, 2023, doi:10.3390/ fractalfract7020122.

3. V. Mihaly, **M. Șușcă**, D. Morar, P. Dobra, Sensitivity Analysis of Krasovskii Passivity-Based Controllers, *Mathematics 2022, 10(20), 3750*, doi:10.3390/ math10203750.

4. V. Mihaly, **M. Șușcă**, E. H. Dulf, D. Morar, P. Dobra, Fractional Order Robust Controller for Fractional-Order Interval Plants, *10th IFAC Symposium on Robust Control Design ROCOND 2022: Online (Kyoto, Japan), 30 August – 2 September 2022*, IFAC-Papers OnLine Volume 55, Issue 25, 2022, Pages 151-156, doi:10.1016/ j.ifacol.2022.09.339.

5. V. Mihaly, **M. Șușcă**, E. H. Dulf, P. Dobra, Approximating the Fractional-Order Element for the Robust Control Framework, *2022 American Control Conference (ACC)*, 2022, pp. 1151-1157, doi: 10.23919/ACC53348. 2022.9867658.

6. V. Mihaly, **M. Șușcă**, D. Morar, P. Dobra, Polytopic Robust Passivity Cascade Controller Design for Nonlinear Systems, *2022 European Control Conference (ECC)*, 2022, pp. 2105-2110, doi: 10.23919/ ECC55457. 2022.9838073.

7. **M. Șușcă**, V. Mihaly, D. Morar, P. Dobra, Quasi-Optimal Sampling Time Computation for LTI Controllers, *IFAC-PapersOnLine*, Vol. 55, Issue 15, pp. 87-92, 6th IFAC Conference on Intelligent Control and Automation Sciences, ICONS, Cluj-Napoca, Romania, July 2022, doi:10. 1016/j.ifacol.2018.06.107.

8. V. Mihaly, **M. Șușcă**, D. Morar, P. Dobra, Closed-Loop System Sensitivity Analysis for Passivity-Based Controller Parameters, *2022 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR)*, 2022, pp. 1-6, doi: 10.1109/AQTR55203. 2022.9802070.

9. D. Morar, V. Mihaly, **M. Șușcă**, M. Dobra, LMI Conditions for CNC Cascade Controller Design - A State Feedback Approach, *2022 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR)*, 2022, pp. 1-6, doi: 10.1109/AQTR55203. 2022.9801985.

10. **M. Șușcă**, V. Mihaly, D. Morar, P. Dobra, Worst-Case Execution Time Estimation for Numerical Controllers, *2022 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR)*, 2022, pp. 1-6, doi: 10.1109/AQTR55203.2022.9802027.

11. V. Mihaly, **M. Șușcă**, D. Morar, P. Dobra, Extended Nonideal Passivity Based Controller for DC-DC Boost Converter, *2021 25th International Conference on System Theory, Control and Computing (ICSTCC)*, 2021, pp. 46-51, doi: 10.1109/ICSTCC52150.2021.9607248.

12. V. Mihaly, **M. Șușcă**, E.H. Dulf, μ-Synthesis FO-PID for Twin Rotor Aerodynamic System, *Mathematics*, vol. 9, 2504, 2021, doi:10. 3390/math9192504.

13. V. Mihaly, **M. Șușcă**, P. Dobra, Krasovskii Passivity and μ-Synthesis Control Design for Quasi-Linear Affine Systems, *Energies*, vol. 14, 5571, 2021, doi:10.3390/en14175571.

14. V. Mihaly, **M. Şuşcă**, D. Morar, M. Stănese, P. Dobra, μ-Synthesis for Fractional-Order Robust Controllers, Mathematics, 9, 911, 2021, doi:10.3390/math9080911.

15. **M. Şuşcă**, V. Mihaly, M. Stănese, D. Morar, P. Dobra, Unified CACSD Toolbox for Hybrid Simulation and Robust Controller Synthesis with Applications in DC-to-DC Power Converter Control, *Mathematics*, 9, 731, 2021, doi:10.3390/math9070731.

16. **M. Şuşcă**, V. Mihaly, M. Stănese, P. Dobra, Iterative Refinement Procedure for Solutions to Algebraic Riccati Equations, *2020 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR)*, 2020, pp. 1-5, doi: 10.1109/AQTR49680.2020.9130027.

17. M. Stănese, **M. Şuşcă**, V. Mihaly, I. Naşcu, Design and Control of a Self-Balancing Robot, *2020 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR)*, 2020, pp. 1-6, doi: 10.1109/AQTR49680.2020.9129935.

18. V. Mihaly, M. Stănese, **M. Şuşcă**, P. Dobra, Interior Point Methods for Renewable Energy Management, *2020 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR)*, 2020, pp. 1-6, doi: 10.1109/AQTR49680.2020.9129953.

19. V. Mihaly, **M. Şuşcă**, P. Dobra, Passivity-Based Controller for Nonideal DC-to-DC Boost Converter, *2019 22nd International Conference on Control Systems and Computer Science (CSCS)*, 2019, pp. 30-35, doi: 10.1109/CSCS.2019.00013.

20. E.H. Dulf, **M. Şuşcă**, L. Kovács, Novel Optimum Magnitude Based Fractional Order Controller Design Method, IFAC-PapersOnLine Volume 51, Issue 4, 2018, Pages 912-917, 3rd IFAC Conference on Advances in Proportional-Integral-Derivative Control PID 2018, doi:10.1016/j.ifacol.2018.06.107.

21. **M. Şuşcă**, P. Dobra, C. Feştilă, F. Şimonca, General-purpose model of a three-phase asynchronous machine for simulation, *2018 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR)*, 2018, pp. 1-6, doi: 10.1109/AQTR.2018.8402749.

22. F. Şimonca, **M. Şuşcă**, P. Dobra, Optimization for CNC pathing, *2018 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR)*, 2018, pp. 1-4, doi: 10.1109/AQTR.2018. 8402761.

23. **M. Şuşcă**, P. Dobra, Notch filter sensitivity analysis with root locus considering parameter uncertainty, *2016 20th International Conference on System Theory, Control and Computing (ICSTCC)*, 2016, pp. 387-391, doi: 10.1109/ICSTCC.2016.7790696.