

## Tudor C. Ionescu – Lista de lucrări

### A. Teza de doctorat

**T. C. Ionescu.** Balanced Truncation for Dissipative and Symmetric Nonlinear Systems, susținută la the Univ. of Groningen, Regatul Țărilor de Jos, 7 septembrie 2009.

### B. Cărți si capitole în cărți publicate

**T. C. Ionescu** and M. Pătrașcu, *Sisteme de conducere a proceselor cu timp mort*. București: Politehnica Press, 2018, 100 de pagini, 2018. ISBN: 978-606-515-805-4.

**T. C. Ionescu**, A. Dumitrache. Model order reduction for linear systems - short survey and new results. *Journal of Economics and Technologies Knowledge*, ISSN 2360-5499, 1(7):15–23, 2015.

[A. Dumitrache, F. Frunzuliță, T. C. Ionescu. Mathematical Modelling and Numerical Investigations on the Coanda Effect. In J. Awrejcewicz and P. Hagedorn, editors, Nonlinearity, Bifurcation and Chaos - Theory and Applications, ISBN 978-953-51-0816-0, 2012.](#)

**T. C. Ionescu.** Balanced Truncation for Dissipative and Symmetric Nonlinear Systems. ISBN:

978-90-367-3889-7, publicată la editura Print Partners IPSKAMP B.V. Enschede, the Netherlands, 2009.

### C. Articole/studii publicate în reviste de specialitate de circulație internațională

[T. C. Ionescu, O.V. Iftime and I. Necoara. Model reduction with pole-zero placement and high order moment matching. Automatica, 132, 2022.](#)

[I. Necoară and T. C. Ionescu.  \$H\_2\$  Model Reduction of Linear Network Systems by Moment Matching and Optimization". IEEE Transactions on Automatic Control, ISSN: 0018-9286, 65\(12\): 5328–5335, 2020.](#)

[T. C. Ionescu. Two-sided time-domain moment matching for linear systems. IEEE Transactions on Automatic Control, ISSN 0018-9286, 61\(9\): 2632-2637, 2016.](#)

[T. C. Ionescu and A. Astolfi. Nonlinear moment matching based model order reduction. IEEE Transactions on Automatic Control, ISSN 0018-9286, 61\(10\):2837-2847, 2016.](#)

[T. C. Ionescu, A. Astolfi and P. Colaneri. Families of moment matching based, low order approximations for linear systems. Systems & Control Letters, ISSN 0167-6911, 64: 47–56, 2014.](#)

[T. C. Ionescu and A. Astolfi. Families of moment matching based, structure preserving approximations for linear port Hamiltonian systems. Automatica, ISSN 0005-1098, 49\(8\):2424–2434, 2013.](#)

[T. C. Ionescu, K. Fujimoto and J. M. A. Scherpen. Singular value analysis of nonlinear symmetric systems. IEEE Transactions on Automatic Control, ISSN 0018-9286, 56\(9\):2073–2086, 2011.](#)

[T. C. Ionescu, K. Fujimoto and J. M. A. Scherpen. Dissipativity preserving balancing for nonlinear systems - a Hankel operator approach. Systems & Control Letters, ISSN 0167-6911, 59:180–194, 2010.](#)

#### **D. Studii publicate în volumele unor manifestări științifice internaționale recunoscute**

[T. C. Ionescu, O. V. Iftime and R. Stefan, A moment matching-based loop shaping design with closed-loop pole placement, Proc. European Control Conference, pp. 1791–1796, 2023.](#)

[Y. Kawano, T. C. Ionescu and O. V. Iftime, Gramian Preserving Moment Matching for Linear Systems, Proc. European Control Conference, pp. 1797–1802, 2023.](#)

[R. Bărbulescu, G. Ciuprina, T. C. Ionescu, D. Ioan, and L. M. Silveira. Efficient model reduction of myelinated compartments as port-Hamiltonian systems. Proc. Scientific Computing in Electrical Engineering, 2020.](#)

[T. C. Ionescu, O. V. Iftime and I. Necoara. Optimal time-domain moment matching with partial placement of poles and zeros. 2020 European Control Conference \(ECC\), Saint Petersburg, Russia, pp. 1769-1774, 2020.](#)

[T. C. Ionescu, O. V. Iftime and Q.-C. Zhong. Model reduction by moment matching: case study of a FIR system. Proc. European Control Conference, pp. 2319–2324, 2019.](#)

[I. Necoara and T. C. Ionescu. Parameter selection for best H2 moment matching-based model approximation through gradient optimization. Proc. European Control Conf., pp. 2301–2306, 2019.](#)

[T. C. Ionescu and O. V. Iftime. A moment matching approach for systems of delayed differential equations. Proc. European Control Conference, pp. 2605–2610, 2018.](#)

[T. C. Ionescu and I. Necoara. A scalable moment matching-based model reduction technique of linear networks. Proc. of the 20th IFAC World Congress, 2017.](#)

[P. Schulze, T. C. Ionescu and J. M. A. Scherpen. Families of moment matching-based reduced order models for linear descriptor systems. Proc. of European Control Conf., pp. 1964-1969, 2016.](#)

[T. C. Ionescu and O. V. Iftime. On moment matching of transfer functions and their derivatives. Proc. of European Control Conf., pp. 340-344, 2015.](#)

[T. C. Ionescu and A. Astolfi. Moment matching based controller reduction for linear systems. Proc. of 52nd IEEE Conf. on Decision and Control, pp. 5528-5533, 2013.](#)

O. V. Iftime and T. C. Ionescu. On an approximation with prescribed zeros of SISO abstract boundary control systems. Proc. of European Control Conference, pp. 2014-2109, 2013.

T. C. Ionescu and A. Astolfi. Families of reduced order models that achieve nonlinear moment matching. Proc. of the American Control Conference, pp. 5518 - 5523, 2013.

T. C. Ionescu and A. Astolfi. Moment matching for nonlinear port Hamiltonian and gradient systems. Proc. of 9th IFAC Symposium on Nonlinear Control Systems, pp. 395-399, 2013.

T. C. Ionescu and O. V. Iftime. Moment matching with prescribed poles and zeros for infinite-dimensional systems. Proc. American Control Conference, pp. 1412-1417, 2012.

T. C. Ionescu, J. M. A. Scherpen, O. V. Iftime and A. Astolfi. Balancing as a moment matching problem. Proc. 20th International Symposium on Math. Theory of Networks and Systems, 2012.

T. C. Ionescu and A. Astolfi. Moment matching for linear systems - overview and new results. Proc. 11th IFAC World Congress, pp. 12739-12744, 2010.

T. C. Ionescu and A. Astolfi. On moment matching with preservation of passivity and stability. Proc. 49th IEEE Conference on Decision and Control, pp. 6189-6194, 2010.

T. C. Ionescu, K. Fujimoto and J. M. A. Scherpen. Positive and bounded real balancing for nonlinear systems - a controllability and observability function approach. Proc. 48th IEEE Conf. on Decision and Control, pp. 4310-4315, 2009.

T. C. Ionescu and J. M. A. Scherpen. Passivity preserving model order reduction for the SMIB. Proc. 47th IEEE Conf. on Decision and Control, pp. 4879-4884, 2008.

T. C. Ionescu and J. M. A. Scherpen. Nonlinear cross Gramians and gradient systems. Proc. 46th IEEE Conf. on Decision and Control, ISSN 0191-2216, pp. 3745-3750, 2007.

T. C. Ionescu, K. Fujimoto and J. M. A. Scherpen. The cross operator and the singular value analysis for nonlinear symmetric systems. Proc. European Cont. Conf. ECC09, pp. 1565-1570, 2009.

T. C. Ionescu and Radu Stefan. Stability Analysis of Neutral Systems: A Delay-Dependent Criterion. Proc. 7th IFAC Workshop on Time Delay Systems, pp. 15-24, 2009.

T. C. Ionescu and J. M. A. Scherpen. Positive real balancing for nonlinear systems. In: Ciuprina G., Ioan D. (eds) Scientific Computing in Electrical Eng. Math. in Ind., vol. 11, pp. 153-160, 2007.

**Data: 14/04/2024**

**Semnătura:**