

Bibliographic data of joint publications involving authors from at least two TD1307 member countries

Books

- [1] P. Benner, M. Ohlberger, A. Cohen, and K. Willcox, eds. *Model Reduction and Approximation: Theory and Algorithms*. Philadelphia, PA: Society for Industrial and Applied Mathematics, 2017. ISBN: 978-1-611974-81-2. DOI: 10.1137/1.9781611974829.
- [2] P. Benner, M. Ohlberger, A. T. Patera, G. Rozza, and K. Urban, eds. *Model Reduction of Parametrized Systems*. Springer International Publishing, 2017. ISBN: 978-3-319-58786-8. DOI: 10.1007/978-3-319-58786-8.
- [3] S. Grivet-Talocia and B. Gustavsen, eds. *Passive Macromodeling: Theory and Applications*. John Wiley and Sons, 2016. ISBN: 978-1-119-14093-1. DOI: 10.1002/9781119140931.

Book Chapters

- [1] Peter Benner and Tobias Breiten. “Model Order Reduction Based on System Balancing”. In: *Model Reduction and Approximation*. Ed. by P. Benner, A. Cohen, M. Ohlberger, and K. Willcox. Computational Science & Engineering. Philadelphia, PA: SIAM, 2017, pp. 261–295. ISBN: 978-1-611974-81-2.
- [2] Peter Benner, Ernesto Dufrechou, Pablo Ezzatti, Pablo Igounet, Enrique S. Quintana-Ortí, and Alfredo Remón. “Accelerating Band Linear Algebra Operations on GPUs with Application in Model Reduction”. In: *Computational Science and Its Applications –ICCSA 2014: 14th International Conference, Guimarães, Portugal, June 30 –July 3, 2014, Proceedings, Part VI*. Ed. by B. Murgante, S. Misra, A. M. A. C. Rocha, C. Torre, J. G. Rocha, M. I. Falcão, D. Taniar, B. O. Apduhan, and O. Gervasi. Vol. 8584. Lecture Notes in Comput. Sci. Cham: Springer, 2014, pp. 386–400. ISBN: 978-331909152-5. DOI: 10.1007/978-3-319-09153-2_29.
- [3] Laura Iapichino, Stefan Trenz, and Stefan Volkwein. “Reduced-Order Multiobjective Optimal Control of Semilinear Parabolic Problems”. In: *Numerical Mathematics and Advanced Applications ENUMATH 2015*. Ed. by B. Karasözen, M. Manguoğlu, M. Tezer-Sezgin, S. Göktepe, and Ö Uğur. Lect. Notes Comput. Sci. Eng. European Conference on Numerical Mathematics and Advanced Applications (ENUMATH), Middle E Tech Univ, Inst Appl Math, Ankara, TURKEY, SEP 14-18, 2015. Cham: Springer International Publishing, 2016, pp. 389–397. ISBN: 978-3-319-39929-4. DOI: 10.1007/978-3-319-39929-4_37.

- [4] Bülent Karasözen, Murat Uzunca, and Tuğba Küçükseyhan. “Model Order Reduction for Pattern Formation in FitzHugh-Nagumo Equations”. In: *Numerical Mathematics and Advanced Applications ENUMATH 2015*. Ed. by B. Karasözen, M. Manguoğlu, M. Tezer-Sezgin, S. Göktepe, and Öm. Uğur. Lect. Notes Comput. Sci. Eng. European Conference on Numerical Mathematics and Advanced Applications (ENUMATH), Middle E Tech Univ, Inst Appl Math, Ankara, TURKEY, SEP 14-18, 2015. Cham: Springer International Publishing, 2016, pp. 369–377. ISBN: 978-3-319-39929-4. DOI: 10.1007/978-3-319-39929-4_35.
- [5] Murat Uzunca and Bulent Karasözen. “Energy stable model order reduction for the Allen-Cahn equation”. In: *Model Reduction of Parametrized Systems III*. Ed. by F. Ferrari, P. Benner, G. Rozza, A. Patera, A. Vane-gas, K. Urban, and M. Ohlberger. to appear. Berlin-Heidelberg: Springer, 2017. Chap. 25, pp. –.

Articles

- [1] N. Banagaaya, L. Feng, P. Meuris, W. Schoenmaker, and P. Benner. “Model Order Reduction of an Electro-Thermal Package Model”. In: *IFAC-PapersOnLine* 48 (2015), pp. 934–935. DOI: 10.1016/j.ifacol.2015.05.212.
- [2] P. Benner and T. Breiten. “Two-Sided Projection Methods for Nonlinear Model Order Reduction”. In: *SIAM J. Sci. Comput.* 37.2 (2015), B239–B260. DOI: 10.1137/14097255X.
- [3] P. Benner and T. Breiten. “Two-Sided Projection Methods for Nonlinear Model Order Reduction”. In: *SIAM J. Sci. Comput.* 37.2 (2015), B239–B260. DOI: 10.1137/14097255X.
- [4] P. Benner, A. Remón, E. Dufrechou, P. Ezzatti, and E. S. Quintana-Ortí. “Extending Lyapack for the Solution of Band Lyapunov Equations on Hybrid CPU-GPU Platforms”. In: *J. Supercomput.* 71.2 (Feb. 2015), pp. 740–750. DOI: 10.1007/s11227-014-1322-7.
- [5] P. Benner, P. Kürschner, Z. Tomljanović, and N. Truhar. “Semi-Active Damping Optimization of Vibrational Systems using the Parametric Dominant Pole Algorithm”. In: *Z. Angew. Math. Mech.* 96.5 (2016), pp. 604–619. DOI: 10.1002/zamm.201400158.
- [6] P. Benner, E. Dufrechou, P. Ezzatti, E. S. Quintana-Ortí, and A. Remón. “Unleashing GPU Acceleration for Symmetric Band Linear Algebra Kernels and Model Reduction”. In: *Cluster Comp.* 18.4 (Dec. 2015), pp. 1351–1362. DOI: 10.1007/s10586-015-0489-x.
- [7] O. Burkovska, B. Haasdonk, J. Salomon, and B. Wohlmuth. “Reduced basis methods for pricing options with the Black-Scholes and Heston model”. In: *SIAM J. Financ. Math.* 6.1 (2015), pp. 685–712. DOI: 10.1137/140981216.
- [8] G. De Luca, G. Antonini, and P. Benner. “Parallel Model Order Reduction of Sparse Electromagnetic/Circuit Models”. In: *Appl. Comput. Electrom.* 30.1 (Jan. 2015), pp. 1–21. ISSN: 1054-4887.

- [9] G. De Luca, P. Bolcato, R. Larcheveque, J. Rommes, and W. H. A. Schilders. “Fast and Accurate Time-Domain Simulations of Integer-N PLLs”. In: *IEEE T. Circuits-I* 64.4 (Apr. 2017), pp. 931–944. ISSN: 1549-8328. DOI: 10.1109/TCSI.2016.2628323.
- [10] L. Feng, Y. Yue, N. Banagaaya, P. Meuris, W. Schoenmaker, and P. Benner. “Parametric Modeling and Model Order Reduction for (Electro-)Thermal Analysis of Nanoelectronic Structures”. In: *J. Math. Indust.* 6.1 (Nov. 2016), p. 10. DOI: 10.1186/s13362-016-0030-8.
- [11] F. D. Freitas, R. Pulch, and J. Rommes. “Fast and Accurate Model Reduction for Spectral Methods in Uncertainty Quantification”. In: *Int. J. for Uncertainty Quantification* 6.3 (2016), pp. 271–286. ISSN: 2152-5080. DOI: 10.1615/Int.J.UncertaintyQuantification.2016016646.
- [12] L. Giraldi, D. Liu, H. G. Matthies, and A. Nouy. “To Be or Not to be Intrusive? The Solution of Parametric and Stochastic Equations—Proper Generalized Decomposition”. In: *SIAM J. Sci. Comput.* 37.1 (2015), A347–A368. DOI: 10.1137/140969063.
- [13] L. Giraldi, A. Litvinenko, D. Liu, H. G. Matthies, and A. Nouy. “To Be or Not to Be Intrusive? The Solution of Parametric and Stochastic Equations—the “Plain Vanilla” Galerkin Case”. In: *SIAM J. Sci. Comput.* 36.6 (2014), A2720–A2744. DOI: 10.1137/130942802.
- [14] S. Grivet-Talocia and B. Gustavsen. “Black-box macromodeling and its EMC applications”. In: *IEEE Electroman. Comp. M.* 5.3 (2016), pp. 71–78. ISSN: 2162-2264. DOI: 10.1109/MEMC.0.7764255.
- [15] S. Grivet-Talocia, G. Signorini, S. B. Olivadese, C. Siviero, and P. Brenner. “Thermal Noise Compliant Synthesis of Linear Lumped Macromodels”. In: *IEEE Trans. Compon. Packag. Manuf. Technol.* 5.1 (Jan. 2015), pp. 75–85. ISSN: 2156-3950. DOI: 10.1109/TCPMT.2014.2370096.
- [16] L. Iapichino, S. Ulbrich, and S. Volkwein. “Multiobjective PDE-constrained Optimization using the Reduced-Basis Method”. In: *Adv. Comput. Math.* (Jan. 2017). ISSN: 1572-9044. DOI: 10.1007/s10444-016-9512-x.
- [17] E. Jarlebring, S. Kvaal, and W. Michiels. “An Inverse Iteration Method for Eigenvalue Problems with Eigenvector Nonlinearities”. In: *SIAM J. Sci. Comput.* 36.4 (2014), A1978–A2001. DOI: 10.1137/130910014.
- [18] B. Karasözen, C. Akkoyunlu, and M. Uzunca. “Model Order Reduction for Nonlinear Schrodinger Equation”. In: *Appl. Math. Comput.* 258 (May 2015), pp. 509–519. ISSN: 0096-3003. DOI: 10.1016/j.amc.2015.02.001.
- [19] B. Karasözen, T. Küçükseyhan, and M. Uzunca. “Structure preserving integration and model order reduction of skew-gradient reaction–diffusion systems”. In: *Ann. Oper. Res.* (Nov. 2015), pp. 1–28. ISSN: 1572-9338. DOI: 10.1007/s10479-015-2063-6.
- [20] S. Kaulmann, B. Flemisch, B. Haasdonk, K.-A. Lie, and M. Ohlberger. “The Localized Reduced Basis Multiscale Method for Two-Phase Flows in Porous Media”. In: *Internat. J. Numer. Methods Engrg.* 102.5 (2015), pp. 1018–1040. DOI: 10.1002/nme.4773.
- [21] A. Koskela, E. Jarlebring, and M. E. Hochstenbach. “Krylov Approximation of Linear ODEs with Polynomial Parameterization”. In: *SIAM J. Matrix Anal. Appl.* 37.2 (2016), pp. 519–538. DOI: 10.1137/15M1032831.

- [22] I. Martini, G. Rozza, and B. Haasdonk. “Certified Reduced Basis Approximation for the Coupling of Viscous and Inviscid Parametrized Flow Models”. In: *SIAM J. Sci. Comput.* (2017). DOI: 10.1007/s10915-017-0430-y.
- [23] I. Martini, G. Rozza, and B. Haasdonk. “Reduced basis approximation and a-posteriori error estimation for the coupled Stokes-Darcy system”. In: *Adv. Comput. Math.* 41.5 (2015), pp. 1131–1157. DOI: 10.1007/s10444-014-9396-6.
- [24] A. Massoudi, M. R. Opmeer, and T. Reis. “Analysis of an Iteration Method for the Algebraic Riccati Equation”. In: *SIAM J. Matrix Anal. Appl.* 37.2 (2016), pp. 624–648. DOI: 10.1137/140985792.
- [25] A. Massoudi, M. R. Opmeer, and T. Reis. “The ADI method for bounded real and positive real Lur’e equations”. In: *Numer. Math.* 135.2 (Feb. 2017), pp. 431–458. ISSN: 0945-3245. DOI: 10.1007/s00211-016-0805-2.
- [26] S. B. Olivadese, S. Grivet-Talocia, C. Siviero, and D. Kaller. “Macromodel-Based Iterative Solvers for Simulation of High-Speed Links With Nonlinear Terminations”. In: *IEEE Trans. Compon. Packag. Manuf. Technol.* 4.11 (Nov. 2014), pp. 1847–1861. ISSN: 2156-3950. DOI: 10.1109/TCPMT.2014.2359982.
- [27] S. B. Olivadese, G. Signorini, S. Grivet-Talocia, and P. Brenner. “Parameterized and DC-Compliant Small-Signal Macromodels of RF Circuit Blocks”. In: *IEEE Trans. Compon. Packag. Manuf. Technol.* 5.4 (Apr. 2015), pp. 508–522. ISSN: 2156-3950. DOI: 10.1109/TCPMT.2015.2403071.
- [28] M. R. Opmeer and T. Reis. “A Lower Bound for the Balanced Truncation Error for MIMO Systems”. In: *IEEE Trans. Autom. Control* 60.8 (Aug. 2015), pp. 2207–2212. ISSN: 0018-9286. DOI: 10.1109/TAC.2014.2368232.
- [29] R. Pulch and E. Jan W. ter Maten. “Stochastic Galerkin Methods and Model Order Reduction for Linear Dynamical Systems”. In: *Int. J. for Uncertainty Quantification* 5.3 (2015), pp. 255–273. ISSN: 2152-5080. DOI: 10.1615/Int.J.UncertaintyQuantification.2015010171.
- [30] R. Pulch, E. Jan W. ter Maten, and F. Augustin. “Sensitivity analysis and model order reduction for random linear dynamical systems”. In: *Math. Comput. Simulat.* 111 (2015), pp. 80–95. ISSN: 0378-4754. DOI: 10.1016/j.matcom.2015.01.003.
- [31] G. Signorini, C. Siviero, S. Grivet-Talocia, and I. S. Stievano. “Macromodeling of I/O Buffers via Compressed Tensor Representations and Rational Approximations”. In: *IEEE Trans. Compon. Packag. Manuf. Technol.* 6.10 (Oct. 2016), pp. 1522–1534. ISSN: 2156-3950. DOI: 10.1109/TCPMT.2016.2602212.

Preprints

- [1] A. Alla, M. Falcone, and S. Volkwein. *Error analysis for POD approximations of infinite horizon problems via the dynamic programming approach*. Konstanzer Schriften in Mathematik. Sept. 2015. URL: <http://nbn-resolving.de/urn:nbn:de:bsz:352-0-300231>.

- [2] C. Beattie, V. Mehrmann, H. Xu, and H. Zwart. *Port-Hamiltonian Descriptor Systems*. arXiv e-prints 1705.09081. math.OC. Cornell University, May 2017. URL: <https://arxiv.org/abs/1705.09081>.
- [3] A. Falcó, W. Hackbusch, and A. Nouy. *On the Dirac-Frenkel variational principle on tensor Banach spaces*. arXiv e-prints 1610.09865. math.NA. Cornell University, Oct. 2016. URL: <https://arxiv.org/abs/1610.09865>.

Conference Paper

- [1] N. Banagaaya, L. Feng, W. Schoenmaker, P. Meuris, A. Wieers, R. Gillon, and P. Benner. “Model Order Reduction for Nanoelectronics Coupled Problems with Many Inputs”. In: *Proceedings of the 2016 Design, Automation & Test in Europe Conference & Exhibition (DATE)*. 2016, pp. 313–318. ISBN: 978-3-9815-3707-9.
- [2] S. Kula and A. S. Lup. “Parametrized reduced model of RF MEMS capacitive switch”. In: *2017 10th International Symposium on Advanced Topics in Electrical Engineering (ATEE)*. Mar. 2017, pp. 529–532. DOI: 10.1109/ATEE.2017.7905180.
- [3] S. Lefteriu and S. Grivet-Talocia. “Loewner-based macromodeling with exact interpolation constraints”. In: *2016 IEEE 25th Conference on Electrical Performance Of Electronic Packaging And Systems (EPEPS)*. Oct. 2016, pp. 43–46. DOI: 10.1109/EPEPS.2016.7835414.
- [4] P. Schulze, T. C. Ionescu, and J. M. A. Scherpen. “Families of moment matching-based reduced order models for linear descriptor systems”. In: *European Control Conference (ECC)*. 2016, pp. 1964–1969. DOI: 10.1109/ECC.2016.7810579.
- [5] C. Siviero, S. Grivet-Talocia, I. S. Stievano, and G. Signorini. “Behavioral Macromodeling of High-Speed Drivers via Compressed Tensor Representations”. In: *2015 IEEE MTT-S International Conference on Numerical Electromagnetic and Multiphysics Modeling and Optimization (NEMO)*. **Invited paper**. Aug. 2015, pp. 1–3. DOI: 10.1109/NEMO.2015.7415004.
- [6] Y. Yue, L. Feng, P. Meuris, W. Schoenmaker, and P. Benner. “Application of Krylov-type Parametric Model Order Reduction in Efficient Uncertainty Quantification of Electro-thermal Circuit Models”. In: *Proceedings of the Progress In Electromagnetics Research Symposium (PIERS 2015)*. 2015, pp. 379–384. DOI: 10.17617/2.2223025.