

## List of Publications

Petra Csomós

## Papers in refereed journals

- [30] P. Csomós, M. Ehrhardt, B. Farkas: Operator splitting for abstract Cauchy problems with dynamical boundary condition, *Operators and Matrices* **15**, 903–935 (2021)  
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- [29] P. Csomós, E. Sikolya: Numerical analysis view on general Trotter–Kato product formulae, *Acta Scientiarum Mathematicarum (Szeged)* **87**, 307–329 (2021)  
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- [28] P. Csomós, B. Takács: Operator splitting for space-dependent epidemic model, *Applied Numerical Mathematics* **159**, 259–280 (2021)  
<https://doi.org/10.1016/j.apnum.2020.09.010>
- [27] P. Csomós: Magnus-type integrator for semilinear delay equations with an application to epidemic models, *Journal of Computational and Applied Mathematics* **363**, 92–105 (2020)  
<https://doi.org/10.1016/j.cam.2019.05.031>
- [26] P. Csomós, H. Mena: Fourier-Splitting method for solving hyperbolic LQR problems, *Numerical Algebra, Control and Optimization* **8**, 17–46 (2018)  
<http://dx.doi.org/10.3934/naco.2018002>
- [25] P. Csomós, J. Winckler: A semigroup proof for the well-posedness of the linearised shallow water equations, *Analysis Mathematica* **43**, 445–459 (2017)  
<https://doi.org/10.1007/s10476-017-0204-7>
- [24] A. Bátkai, P. Csomós, B. Farkas: Operator splitting for dissipative delay equations, *Semigroup Forum* **95**, 345–365 (2017)  
<https://doi.org/10.1007/s00233-016-9812-y>
- [23] Á. Bodó, P. Csomós: An invitation to meteorological data assimilation, *Mathematical Problems in Meteorological Modelling*, Springer Series Mathematics in Industry, 165–192 (2016)  
[https://doi.org/10.1007/978-3-319-40157-7\\_9](https://doi.org/10.1007/978-3-319-40157-7_9)
- [22] P. Csomós, I. Faragó, I. Fekete: Numerical stability for nonlinear evolution equations, *Computers and Mathematics with Applications* **70**, 2752–2761 (2015)  
<http://dx.doi.org/10.1016/j.camwa.2015.05.023>
- [21] Zs. Regály, Zs. Sándor, P. Csomós, S. Ataiee: Trapping of giant-planet cores - I. Vortex aided trapping at the outer dead zone edge, *Monthly Notices of the Royal Astronomical Society* **433**, 2626–2646 (2013)  
<http://dx.doi.org/10.1093/mnras/stt936>
- [20] A. Bátkai, P. Csomós, B. Farkas: Operator splitting for nonautonomous delay equations, *Computers & Mathematics with Applications* **65**, 315–324 (2013)  
<http://dx.doi.org/10.1016/j.camwa.2012.05.001>
- [19] A. Bátkai, P. Csomós, K.-J. Engel, B. Farkas: Stability and convergence of product formulas for operator matrices, *Integral Equations and Operator Theory* **74**, 281–299 (2012)  
<http://dx.doi.org/10.1007/s00020-012-1994-4>
- [18] A. Bátkai, P. Csomós, B. Farkas, and G. Nickel: Operator splitting with spatial-temporal discretization, *Spectral Theory, Mathematical System Theory, Evolution Equations, Differential and Difference Equations Operator Theory: Advances and Applications* **221**, 161–171 (2012)  
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- [17] A. Bátkai, P. Csomós, B. Farkas, and G. Nickel, Operator splitting for non-autonomous evolution equations, *Journal of Functional Analysis* **260**, 2163–2190 (2011)  
<http://dx.doi.org/10.1016/j.jfa.2010.10.008>
- [16] E. Adamcsek, G. Bölöni, P. Csomós, A. Horányi: The application of the Ensemble Transform Kalman Filter technique at the Hungarian Meteorological Service: preliminary results, *Időjárás, Quarterly Journal of the Hungarian Meteorological Service* **114**, 21–37 (2010)  
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- [15] A. Bátkai, P. Csomós, G. Nickel: Operator splittings and spatial approximations for evolution equations, *Journal of Evolution Equations* **9**, 613–636 (2009)  
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- [14] P. Csomós, G. Nickel: Operator splitting for delay equations, *Computers and Mathematics with Applications* **55**, 2234–2246 (2008)  
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- [13] P. Csomós, I. Faragó: Error analysis of the numerical solution of split differential equations, *Mathematical and Computer Modelling* **48**, 1090–1106 (2008)  
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- [12] P. Csomós: Analysis of a transport model applying operator splitting and semi-Lagrangian method, *International Journal of Computational Science and Engineering* **3**, 245–254 (2007)  
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- [11] P. Csomós, I. Dimov, I. Faragó, Á. Havasi, Tz. Ostromsky: Computational complexity of weighted splitting scheme on parallel computers, *International Journal of Parallel, Emergent and Distributed Systems* **223**, 137–147 (2007)  
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- [10] P. Csomós: Operator splitting procedures for air pollution transport models, *Large-Scale Scientific Computing, Lecture Notes in Computer Science* **3743**, 331–338 (2006)  
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- [9] P. Csomós: Analytical solutions and numerical experiments for optimizing operator splitting procedures, *Időjárás, Quarterly Journal of the Hungarian Meteorological Service* **110**, 379–415 (2006)  
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- [8] P. Csomós, I. Faragó, Á. Havasi: Weighted sequential splittings and their analysis, *Computers and Mathematics with Applications* **50**, 1017–1031 (2005)  
<http://dx.doi.org/10.1016/j.camwa.2005.08.004>

### Refereed conference papers

- [9] P. Csomós, H. Mena: Innovative integrators for computing the optimal state in LQR problems, In: I. Dimov, I. Faragó, L. Vulkov (eds) Numerical Analysis and Its Applications. NAA 2016. *Lecture Notes in Computer Science* **10187**, Springer, 269–276 (2017)  
[https://doi.org/10.1007/978-3-319-57099-0\\_28](https://doi.org/10.1007/978-3-319-57099-0_28)
- [8] P. Csomós, I. Faragó, I. Fekete: Operator semigroups for convergence analysis, In: I. Dimov, I. Faragó (eds) Finite Difference Methods, Theory and Applications. FDM 2014. *Lecture Notes in Computer Science* **9045**, Springer, 38–49 (2015)  
[http://dx.doi.org/10.1007/978-3-319-20239-6\\_4](http://dx.doi.org/10.1007/978-3-319-20239-6_4)
- [7] P. Csomós, A. Ostermann: Exponential integrators for (a very few) hyperbolic problems, *Oberwolfach Reports* **14**, 20–21 (2014)  
<http://dx.doi.org/10.4171/OWR/2014/14>

- [6] A. Bátkai, P. Csomós, B. Farkas: Operator splitting for dissipative delay equations, In: P. Steinmann, G. Leugering (eds) *PAMM Special Issue: 85th GAMM Annual Meeting*, Wiley-VCH Verlag, 989–990 (2014)  
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- [5] A. Bátkai, P. Csomós, K.-J. Engel B. Farkas: Stability for Lie–Trotter products for some operator matrix semigroups, In: P. Steinmann, G. Leugering (eds) *PAMM Special Issue: 85th GAMM Annual Meeting*, Wiley-VCH Verlag, 985–998 (2014)  
<http://dx.doi.org/10.1002/pamm.201410478>
- [4] R. Kissmann, M. Werner, K. Egberts, O. Reimer, P. Csomós, A. Ostermann: Physics and parameters in Galactic CR transport models High Energy Gamma-ray Astronomy: 5<sup>th</sup> International Meeting on High Energy Gamma-Ray Astronomy. *AIP Conference Proceedings* **1505**, 450–453 (2012)  
<http://dx.doi.org/10.1063/1.4772294>
- [3] P. Csomós: Some aspects of interaction between splitting procedures and numerical methods, *Advances in Air Pollution Modeling for Environmental Security, NATO Science Series* **54**, 77–91 (2005)  
[http://dx.doi.org/10.1007/1-4020-3351-6\\_8](http://dx.doi.org/10.1007/1-4020-3351-6_8)
- [2] P. Csomós, I. Faragó, Á. Havasi: Operator splitting and global error analysis, *Air Pollution Processes in Regional Scale, NATO Science Series* **30**, 37–44 (2003)  
[http://dx.doi.org/10.1007/978-94-007-1071-9\\_5](http://dx.doi.org/10.1007/978-94-007-1071-9_5)

#### Non-refereed publications

- [1] P. Csomós, G. Bölöni: First steps towards the application of the Ensemble Transform Kalman Filter technique at the Hungarian Meteorological Service, *HIRLAM Newsletter* **54**, 9–19 (2008)  
[joomla.hirlam.org/publications/NewsLetters/54/csomos\\_boloni.pdf](http://joomla.hirlam.org/publications/NewsLetters/54/csomos_boloni.pdf)