Philipp Öffner

Publikationsliste

Publikationen in wissenschaftlichen Zeitschriften

1. P. Öffner, D. Torlo - **Arbitrary high-order, conservative and positivity preserving Patankar-type deferred correction schemes** - *Applied Numerical Mathematics* 153, 15 - 34, 2020. (doi).
2. J. Glaubitz, P. Öffner - **Stable discretisations of high order discontinuous Galerkin methods on equidistant and scattered points** - *Applied Numerical Mathematics* 151, 98 - 118, 2020. (doi).
3. P. Öffner, J. Glaubitz, H. Ranocha - **Analysis of Artificial Dissipation of Explicit and Implicit Time-Integration Methods** - *International Journal of Numerical Analysis and Modeling*, 2019 (angenommen). (Preprint: arXiv).
4. P. Öffner, H. Ranocha - **Error Boundedness of Discontinuous Galerkin Methods with Variable Coefficients** - *Journal of Scientific Computing* 79(3), 1572 - 1607, 2019.(doi).
5. P. Öffner, J. Glaubitz, H. Ranocha - **Polynomial Chaos Method for the Burgers' Equation using Correction Procedure via Reconstruction with Summation-by-Parts Operators** - *ESAIM: Mathematical Modelling and Numerical Analysis* 52(6), 2215 - 2245, 2018. (doi).
6. H. Ranocha, J. Glaubitz, P. Öffner, Th. Sonar - **Stability of artificial dissipation and modal filtering for flux reconstruction schemes using summation-by-parts operators** - *Applied Numerical Mathematics* 128, 1 - 23, 2018. (doi).
7. J. Glaubitz, P. Öffner, Th. Sonar - **Application of Modal Filtering to a Spectral Difference Method** - *Mathematics of Computation* 87(309), 175 - 207, 2018. (doi).
8. H. Ranocha, P. Öffner -L_2 **Stability of Explicit Runge-Kutta Schemes** - *Journal of Scientific Computing* 75(2), 1040 - 1056, 2018. (doi).
9. H. Ranocha, P. Öffner, Th. Sonar - **Extended Skew-Symmetric Form for Summation-by-Parts Operators and Varying Jacobians** - *Journal of Computational Physics* 342, 13 - 28, 2017. (doi).
10. H. Ranocha, P. Öffner, Th. Sonar - **Summation-by-parts operators for correction procedure via reconstruction** - *Journal of Computational Physics* 311, 299 - 328, 2016. (doi).
11. P. Öffner, Th. Sonar, M. Wirz - **Detecting strength and location of jump discontinuities in numerical data** - *Applied Mathematics* 4, (12A), 1 - 14, 2013. (doi).
12. P. Öffner, Th. Sonar - **Spectral convergence for orthogonal polynomials on triangles** - *Numerische Mathematik* 124 (4), 701–721, 2013. (doi).

Preprints

13. M. Han Veiga, P. Öffner, D. Torlo - **DeC and ADER: Similarities, Differences and an Unified Framework** - *arXiv:2002.11764*, 2020. (arXiv).
14. R. Abgrall, J. Nordström, P. Öffner, S. Tokareva - **Analysis of the SBP-SAT Stabilization for Finite Element Methods Part II: Entropy Stability** - *arXiv:1912.08390*, 2019. (arXiv).
15. R. Abgrall, J. Nordström, P. Öffner, S. Tokareva - **Analysis of the SBP-SAT Stabilization for Finite Element Methods Part I: Linear problems** - *arXiv:1912.08108*, 2019. (arXiv).
16. R. Abgrall, E. le Mélédo, P. Öffner - **General polytopial H(div) conformal finite elements and their discretisation spaces** - *arXiv:1910.06783*, 2019. (arXiv).
17. R. Abgrall, P. Öffner, H. Ranocha - **Reinterpretation and Extension of Entropy Correction Terms for Residual Distribution and Discontinuous Galerkin Schemes** - *arXiv:1908.04556*, 2019. (arXiv).
18. R. Abgrall, E. le Mélédo, P. Öffner - **A class of finite dimensional spaces and H(div) conformal elements on general polytopes** - *arXiv:1907.08678*, 2019. (arXiv).

19. R. Abgrall, E. le Mélédo, P. Öffner - **On the Connection between Residual Distribution Schemes and Flux Reconstruction** - *hal-01820176, arXiv:1807.01261*, 2018. (arXiv).

20. P. Öffner - **Error boundedness of Correction Procedure via Reconstruction / Flux Reconstruction**, - *arXiv:1806.01575*, 2018. (arXiv).

21. R. Goertz, P. Öffner - **On Hahn polynomial expansion of a continuous function of bounded variation** - *arXiv:1610.06748*, 2016. (arXiv).

22. R. Goertz, P. Öffner - **Spectral accuracy for the Hahn polynomials** - *arXiv:1609.07291*, 2016. (arXiv).

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23. R. Abgrall, E. le Meledo, P.Öffner, H. Ranocha - **Error boundedness of Correction Procedure via Reconstruction / Flux Reconstruction and the Connection to Residual Distribution Schemes** - *Proceedings of HYP2018*, 2020. (doi).

24. J. Glaubitz, P. Öffner, H. Ranocha, Th. Sonar - **Artificial Viscosity for CPR Methods Using SBP Operators** - *Springer Proceedings in Mathematics and Statistics: Proceeding of the XVI International Conference on Hyperbolic Problems Theory, Numerics, Applications*, Aachen, 363-375, 2016. (doi).

25. P. Öffner, H. Ranocha, Th. Sonar - **Correction Procedure via Reconstruction Using Summation-by-Parts Operators** - *Springer Proceedings in Mathematics and Statistics: Proceeding of the XVI International Conference on Hyperbolic Problems Theory, Numerics, Applications,* Aachen, 491-501, 2016. (doi).

26. H. Ranocha, P. Öffner, Th. Sonar - **Summation-by-Parts and Correction Procedure via Reconstruction** - *Spectral and High Order Methods for Partial Differential Equations ICOSAHOM 2016*. Ed. by M. L. Bittencourt, N. A. Dumont, J. S. Hesthaven. Vol. 119. Lecture Notes in Computational Science and Engineering. Cham: Springer, 627-637, 2017. (doi).

27. P. Öffner, Th. Sonar - **Spectral Approximation with Appell Polynomials** - *NUMERICAL ANALYSIS AND APPLIED MATHEMATICS ICNAAM 2011: Proceeding of the International Conference on Numerical Analysis and Applied Mathematics*, Halkidiki, 2011. (doi).

Tagungsbände

- P. Öffner, Th. Sonar - **Orthogonal Polynomials and their Application in a Spectral Difference Method** -*Oberwolfach Report* 41, 2015. (Report).

Dissertation

- P. Öffner- **Zweidimensionale klassische und diskrete orthogonale Polynome und ihre Anwendung auf spektrale Methoden zur Lösung von hyperbolischen Erhaltungsgleichungen** - Dissertation, TU Braunschweig, 2015. (Dissertation).