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- [2] P. DIEHL, F. FRANZELIN, D. PFLÜGER, AND G. C. GANZENMÜLLER, Bond-based peridynamics: a quantitative study of Mode I crack opening, International Journal of Fracture, 2 (2016), pp. 157–170.
- [3] P. DIEHL, S. PRUDHOMME, AND M. LÉVESQUE, A review of benchmark experiments for the validation of peridynamics models, Journal of Peridynamics and Nonlocal Modeling, (2019).
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- [5] I. Tabiai, G. Tkachev, P. Diehl, S. Frey, T. Ertl, D. Therriault, and M. Lévesque, *Hybrid image processing approach for autonomous crack area detection and tracking using local digital image correlation results applied to single-fiber interfacial debonding*, Engineering Fracture Mechanics, 216 (2019).

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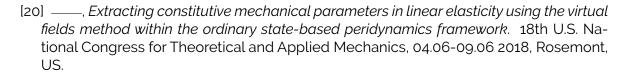
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Invited talks and Presentations

- [1] P. DIEHL, Efficient k-nearest neighbor search on the GPU. Seventh International Workshop Meshfree Methods for Partial Differential Equations, 09.09-11.09 2013, Bonn, Germany.
- [2] —, Coupling CPU and GPU to simulate efficient dynamic cracks and fractures in solids. 12th U.S. National Congress on Computational Mechanics (USNCCM12), 21.07-25.07 2013, Reilagh, US.
- [3] —, Simulation of high-speed velocity impact on ceramic materials using the Peridynamic technique. III International Conference on Particle-Based Methods. Fundamentals and Applications. Particles 2013, 18.09-20.09 2013, Stuttgart, Germany.
- [4] —, Simulation of wave propagation and impact damage in brittle materials using the peridynamics technique. 11th. World Congress on Computational Mechanics (WCCM XI), 20.07-25.07 2014, Barcelona, Spain.

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- [6] —, Efficient particle-based simulation of dynamic cracks and fractures in ceramic material. GPU Technology Conference 2014, 24.03-27.03 2014, San Francisco, US.
- [7] —, Simulation of wave propagation and impact damage in brittle materials using the peridynamics technique. 3rd Workshop on Computational Engineering, 06.10-10.10 2014, Stuttgart, Germany.
- [8] —, A sensitivity study for critical traction in quasi-static peridynamics simulations. 1st. PAN-American Congress on Computational Mechanics, 27.04-30.04 2015, Buenos Aires, Argentina.
- [9] ____, A benchmark study for mode I crack opening for brittle materials. 13th US National Congress on Computational Mechanics (USNCCM), 26.07-30.07 2015, San Diego, US.
- [10] —, Energy equivalence for the horizon independent bond-based peridynamic soft-ening model according to classical theory. The Mathematics of Finite Elements and Applications 2016 (MAFELAP), 14.06-17.06 2016, London, UK.
- [11] ——, *Numerical Validation of the bond-based Softening Model.* SIAM Mathematical Aspects of Material Science 2016, 07.05-12.05 2016, Philadelphia, US.
- [12] ——, Visualization of Fragments, Stress and Fracture Progression in Peridynamics. Isogeometric Analysis and Meshfree Methods, 10.10-12.10 2016, San Diego, USA.
- [13] ——, Modeling ductile materials with bond-based softening peridynamic model. 12th. World Congress on Computational Mechanics (WCCM XII), 24.07-29.07 2016, Seoul, Korea.
- [14] ——, Modeling and simulation of crack and fractures with peridynamics in brittle materials. HIM Junior Seminar, 08.02. 2017, Bonn, Germany.
- [15] —, Experimental Validation of Elastic State Based Peridynamic for PMMA and epoxy materials. 14th U.S. National Congress on Computational Mechanics (USNCCM14), 17.07-20.07 2017, Montreal, Canada.
- [16] —, A Review for Benchmark Experiments against Peridynamic Models. Nonlocal Methods in Fracture, 15.01-16.01 2018, Austin, USA.
- [17] —, Integration of CUDA Processing within the C++ library for parallelism and concurrency (HPX). IEEE/ACM 4th International Workshop on Extreme Scale Programming Models and Middleware (ESPM2'18), 12.11-16.11 2018, Dallas, USA.
- [18] —, Extracting constitutive mechanical parameters in linear elasticity using the virtual fields method within the ordinary state-based peridynamics framework. Optimization days 2018, 07.05-09.05 2018, Montreal, Canada.
- [19] —, A Review for Benchmark Experiments against Peridynamic Models. 13th. World Congress on Computational Mechanics (WCCM XIII), 23.07-27.07 2018, New York City, US.



[21] ——, Implementation of Peridynamics utilizing HPX-the C++ standard library for parallelism and concurrency. Engineering Mechanics Institute Conference, 18.06-21.06 2019, Pasadena, USA.

Posters

- [1] P. DIEHL, Applying Tools and Techniques from Software Engineering in Computational Mechanics. 12th U.S. National Congress on Computational Mechanics (USNCCM12), 21.07-25.07 2013, Raleigh, US.
- [2] —, Numerical verification of the bond-based peridynamic softening model against classical theory. Nonlocal Models in Mathematics, Compution, Science, and Engineering, 26.11-28.11 2015, Oak Ridge, US.

Theses

- [1] P. DIEHL, *Implementierung eines Peridynamik-Verfahrens auf GPU*, Diplomarbeit, Institute of Parallel and Distributed Systems, University of Stuttgart, 2012.
- [2] —, Modelling and Simulation of cracks and fractures with peridynamics in brittle materials, Doktorarbeit, University of Bonn, 2017.

Preprints

[1] P. DIEHL, P. K. JHA, H. KAISER, R. LIPTON, AND M. LEVESQUE, *Implementation of Peridynamics utilizing HPX-the C++ standard library for parallelism and concurrency*, arXiv preprint arXiv:1806.06917, (2018).

Raw experimental data

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