

Journals with impact factor (Web of Science)

- [1] BANDARA, K., CIRAK, F., OF, G., STEINBACH, O., AND ZAPLETAL, J. Boundary element based multiresolution shape optimisation in electrostatics. *Journal of Computational Physics* 297 (2015), 584–598.
- [2] KAČMAŘÍK, M., DOUŠA, J., AND ZAPLETAL, J. Comparison of GPS slant wet delays acquired by different techniques. *Acta Geodynamica et Geomaterialia* 9, 4 (2012), 427–433.
- [3] MERTA, M., AND ZAPLETAL, J. Acceleration of boundary element method by explicit vectorization. *Advances in Engineering Software* 86 (2015), 70–79.
- [4] MERTA, M., AND ZAPLETAL, J. A parallel library for boundary element discretization of engineering problems. *Mathematics and Computers in Simulation* (in press).
- [5] VEIT, A., MERTA, M., ZAPLETAL, J., AND LUKÁŠ, D. Efficient solution of time-domain boundary integral equations arising in sound-hard scattering. *International Journal for Numerical Methods in Engineering* 107, 5 (2016), 430–449.
- [6] ZAPLETAL, J., AND BOUCHALA, J. Effective semi-analytic integration for hypersingular Galerkin boundary integral equations for the Helmholtz equation in 3D. *Applications of Mathematics* 59, 5 (2014), 527–542.
- [7] ZAPLETAL, J., MERTA, M., AND MALÝ, L. Boundary element quadrature schemes for multi- and many-core architectures. *Computers & Mathematics with Applications* 74, 1 (2017), 157–173. 5th European Seminar on Computing ESCO 2016.

Indexed proceedings (Scopus)

- [8] KRAVČENKO, M., MERTA, M., AND ZAPLETAL, J. Using discrete mathematics to optimize parallelism in boundary element method. In *Proceedings of the Fifth International Conference on Parallel, Distributed, Grid and Cloud Computing for Engineering* (2017), P. Iványi, B. Topping, and G. Várady, Eds., vol. 111, Civil-Comp Press.
- [9] MALÝ, L., ZAPLETAL, J., MERTA, M., RIHA, L., AND VONDRAK, V. Comparison of Intel Xeon Phi offload runtimes. In *Proceedings of the Fifth International Conference on Parallel, Distributed, Grid and Cloud Computing for Engineering* (2017), P. Iványi, B. Topping, and G. Várady, Eds., vol. 111, Civil-Comp Press.
- [10] MERTA, M., AND ZAPLETAL, J. Library of parallel boundary element method based solvers for solution of the time-dependent wave equation. In *Proceedings of the Fourth International Conference on Parallel, Distributed, Grid and Cloud Computing for Engineering* (2015), P. Iványi and B. Topping, Eds., vol. 107, Civil-Comp Press.
- [11] MERTA, M., ZAPLETAL, J., AND JAROS, J. Many core acceleration of the boundary element method. In *High Performance Computing in Science and Engineering: Second International Conference, HPCSE 2015, Soláň, Czech Republic, May 25-28, 2015, Revised Selected Papers*,

T. Kozubek, R. Blaheta, J. Šístek, M. Rozložník, and M. Čermák, Eds. Springer International Publishing, 2016, pp. 116–125.

- [12] ČERMÁK, M., MERTA, M., AND ZAPLETAL, J. A novel boundary element library with applications. In *Proceedings of ICNAAM 2014* (2015), T. Simos and C. Tsitouras, Eds., vol. 1648 of *AIP Conference Proceedings*, pp. 1–4.
- [13] VYSOCKY, O., BESEDA, M., RIHA, L., ZAPLETAL, J., NIKL, V., LYSAGHT, M., AND KANNAN, V. Evaluation of the HPC applications dynamic behavior in terms of energy consumption. In *Proceedings of the Fifth International Conference on Parallel, Distributed, Grid and Cloud Computing for Engineering* (2017), P. Iványi, B. Topping, and G. Várady, Eds., vol. 111, Civil-Comp Press.
- [14] ZAPLETAL, J., MERTA, M., AND ČERMÁK, M. BEM4I applied to shape optimization problems. *AIP Conference Proceedings 1738*, 1 (2016), 1–5.
- [15] ZAPLETAL, J., MERTA, M., AND ČERMÁK, M. Acceleration of boundary element method for linear elasticity. *AIP Conference Proceedings 1863*, 1 (2017), 1–4.

Theses

- [16] ZAPLETAL, J. Aplikace metody hraničních prvků na řešení Dirichletovy-Neumanovy okrajové úlohy. Bachelor’s thesis, VŠB – Technical University of Ostrava, 2009.
- [17] ZAPLETAL, J. The boundary element method for the Helmholtz equation in 3D. Master’s thesis, VŠB-TU Ostrava, 2011.
- [18] ZAPLETAL, J. *The Boundary Element Method for Shape Optimization in 3D*. PhD thesis, VŠB-TU Ostrava, 2017.

Miscellaneous

- [19] MERTA, M., ZAPLETAL, J., BRZOBOHATÝ, T., MARKOPOULOS, A., ŘÍHA, L., ČERMÁK, M., HAPLA, V., HORÁK, D., POSPÍŠIL, L., AND VAŠATOVÁ, A. Numerical libraries solving large-scale problems developed at IT4Innovations Research Programme Supercomputing for Industry. *Perspectives in Science 7* (2016), 140–150. 1st Czech-China Scientific Conference 2015.
- [20] ZAPLETAL, J. Shape optimization based on the shape calculus and the boundary element method. In *WOFEX* (2014), M. Krátký, J. Dvorský, and P. Moravec, Eds., VŠB – Technical University of Ostrava, pp. 398–403.
- [21] ZAPLETAL, J. Shape optimization for free surface problems using subdivision techniques. In *WOFEX* (2014), M. Krátký, J. Dvorský, and P. Moravec, Eds., VŠB – Technical University of Ostrava, pp. 562–567.

- [22] ZAPLETAL, J. Boundary element based evaluation of homogenized coefficients in conductivity. In *WOFEX (2015)*, M. Krátký, J. Dvorský, and P. Moravec, Eds., VŠB – Technical University of Ostrava, pp. 516–521.