

## List of publications

### Journal articles

- R. Kohut: [Parallel Solution of Elasticity Problems using Overlapping Aggregations](#). Applications of Mathematics, volume 63, 2018, pages 603-628.
- O. Axelsson, R. Blaheta, R. Kohut: [Preconditioning methods for high-order strongly stable time integration methods with an applications for DAE problem](#). Numerical Linear Algebra with Applications, volume 22, issue 6, 2015, pages 930-949.
- R. Blaheta, R. Kohut et al.: [Digital image based numerical micromechanics of geocomposites with application to chemical grouting](#). International Journal of Rock Mechanics and Mining Sciences, volume 77, 2015, pages 77-88.
- R. Blaheta, P. Byczanski, M. Čermák, R. Hrtus, R. Kohut et al.: [Analysis of Äspö Pillar Stability Experiment: Continuous thermo-mechanical model development and calibration](#). Journal of Rock Mechanics and Geotechnical Engineering, volume 5, issue 2, 2013, pages 124-135.
- O. Axelsson, R. Blaheta, S. Sysala, B. Ahmad: [On the solution of high order stable time integration methods](#). Boundary Value Problems 108, 2013, 22 pages.
- R. Blaheta, R. Hrtus, R. Kohut, O. Jakl: [Optimization methods for calibration of heat conduction problems](#). Large-Scale Scientific Computing, Book series, Lecture Notes in Computing Science, volume 7116, Springer, 2012, pages 541-548.
- R. Kohut, J. Starý, A. Kolcun: [The evaluation of the thermal behavior of an underground repository of the spent nuclear fuel](#). Large-Scale Scientific Computing, Book series, Lecture Notes in Computing Science, volume 4818, Springer, 2008, pages 425-432.

### Selected conference papers

- O. Axelsson, R. Kohut, M. Neytcheva: [An Implementation of a Coarse-Fine Mesh Stabilized Schwarz Method for a Three-Space Dimensional PDE-Problem](#). In I. Lirkov, S. Margenov (eds.): Large-Scale Scientific Computations, volume 13952, Springer Nature Switzerland AG, 2024, pages 3-18.
- R. Blaheta, R. Kohut, J. Starý, S. Sysala: [Computational and reliability aspects of micro-geomechanics](#). In Computer Methods and Recent Advances in Geomechanics: Proceedings of the 14th International Conference of International Association for Computer Methods and Recent Advances in Geomechanics (IACMAG 2014), 2014, pages 205-210.
- R. Blaheta, R. Kohut, A. Kolcun, K. Souček, L. Staš: [Micromechanics of geocomposites: CT images and FEM simulations](#). In EUROROCK 2013, Balkema, 2013, pages 399-404.
- R. Blaheta, R. Hrtus, R. Kohut, O. Axelsson, O. Jakl: [Material parameter identification with parallel processing and geo-applications](#). In R. Wyrzykowski et al. (eds.): PPAM 2011, Part I, Lecture Notes in Computer Science 7203, Springer-Verlag Berlin Heidelberg, 2012, pages 366-375.
- R. Blaheta, R. Kohut, A. Kolcun, K. Souček, L. Staš: [Using of Multiscale Modelling and X-ray Computer Tomography in Geotechnics – First Experience](#). ISRM International Symposium 20109 and 6th Asian Rock Mechanics Symposium – Advances in Rock Engineering, New Delhi, India, 23-27 October, 2010.

### Technical reports:

- R. Blaheta, J. Malik, R. Kohut et al.: *Tepelná analýza referenčního návrhu úložiště vyhořelého jaderného paliva*. Závěrečná zpráva projektu SÚRAO 11/8230/0101, 2012.

### Other publication

- R. Blaheta, I. Georgiev, K. Georgiev, O. Jakl, R. Kohut, S. Margenov, J. Starý: *HPC Computing in Micromechanics with an Application*. Journal Cybernetics and Information Technologies, Institute of Information and Communication Technologies of the BAS, Sofia, 2017.
  - R. Blaheta, I. Georgiev, K. Georgiev, O. Jakl, R. Kohut, S. Margenov, J. Starý: *Fiber-reinforced concrete: micromechanics, material identification, fast solvers*. Proceedings of the NESUS 2016 workshop, Sofia, 2016.
  - R. Blaheta, R. Kohut, O. Jakl: *Solution of identification problems in computational mechanics – parallel processing aspects*. In Applied Parallel and Scientific Computing, Lecture Notes in Computer Science, volume 7134, 2012, pages 399-409.
  - J.C. Andersson, X. Peng, R. Pan et al.: *Modelling the Äsppo pillar stability experiment*. Rock Mechanics in Civil and Environmental Engineering (Eurorock 2010), 2010, pages 787-790.
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