

Literatura

- [1] K. F. Abdulla, L. S. Cunningham, and M. Gillie. Simulating masonry wall behaviour using a simplified micro-model approach. *Engineering Structures*, 151:349 – 365, 2017.
- [2] D. Addessi and E. Sacco. A homogenized model for the nonlinear analysis of masonry columns in compression. *European Journal of Mechanics - A/Solids*, 71:335 – 350, 2018.
- [3] G. Andreotti, F. Graziotti, and G. Magenes. Detailed micro-modelling of the direct shear tests of brick masonry specimens: The role of dilatancy. *Engineering Structures*, 168:929 – 949, 2018.
- [4] ANSYS. 14.0 theory guide. *ANSYS inc*, 390:1, 2011.
- [5] J. H. Argyris, G. Faust, J. Szimmat, E. P. Warnke, and K. J. Willam. Recent developments in the finite element analysis of prestressed concrete reactor vessels. *Nuclear Engineering and Design*, 28(1):42–75, 1974.
- [6] N. Bakhvalov and G. Panasenko. *Homogenization: averaging processes in periodic media*. Kluwer Academic Publishers, 1989.
- [7] D. Baraldi and A. Cecchi. Discrete and continuous models for static and modal analysis of out of plane loaded masonry. *Computers & Structures*, 2017.
- [8] D. Baraldi and A. Cecchi. A full 3d rigid block model for the collapse behaviour of masonry walls. *European Journal of Mechanics - A/Solids*, 64:11 – 28, 2017.
- [9] Z. P. Bazant and J. Planas. *Fracture and size effect in concrete and other quasibrittle materials*, volume 16. CRC press, 1997.
- [10] L. Berto, A. Sabetta, R. Scotta, and R. Vitaliani. Shear behaviour of masonry panel: parametric fe analyses. *International journal of solids and structures*, 41(16-17):4383–4405, 2004.
- [11] Z. Bittnar and J. Šejnoha. *Numerické metody mechaniky 1*. ČVUT, 1992.
- [12] J. Brožovský. *Numerické modely konstrukcí z kompozitních stavebních materiálů*. VŠB-TUO, 2018.
- [13] J. Brožovský. Parallelization of fem code—a simple approach. 2003.

- [14] J. Brožovský. Nelineární statická analýza prvků zděných a železobetonových konstrukcí. 2008.
- [15] J. Brozovsky and P. Pankaj. Towards modelling of a trabecular bone. *Computers and Structures*, 85(9):512–517, 2007.
- [16] J. Brozovsky and O. Sucharda. Static analysis of masonry structures based on chen criteria. *Civil-Comp Proceedings*, 88, 2008.
- [17] R. Čajka and M. Mynarzová. Využití numerického modelování při analýze zděné konstrukce na poddolovaném území. *Transactions of VSB – Technical University of Ostrava, Civil Engineering Series*, 2009.
- [18] A. Cecchi, G. Milani, and A. Tralli. In-plane loaded cfrp reinforced masonry walls: mechanical characteristics by homogenisation procedures. *Composites Science and Technology*, 64(13):2097 – 2112, 2004.
- [19] V. Cervenka. Constitutive model for cracked reinforced concrete. In *Journal Proceedings*, volume 82, pages 877–882, 1985.
- [20] V. Cervenka, J. Cervenka, and R. Pukl. Atena tool for engineering analysis of fracture in concrete. *Sadhana*, 27(4):485–492, 2002.
- [21] Hank Childs, Eric Brugger, Brad Whitlock, Jeremy Meredith, Sean Ahern, David Pugmire, Kathleen Biagas, Mark Miller, Cyrus Harrison, Gunther H. Weber, Hari Krishnan, Thomas Fogal, Allen Sanderson, Christoph Garth, E. Wes Bethel, David Camp, Oliver Rübel, Marc Durant, Jean M. Favre, and Paul Navrátil. VisIt: An End-User Tool For Visualizing and Analyzing Very Large Data. In *High Performance Visualization—Enabling Extreme-Scale Scientific Insight*, pages 357–372. Oct 2012.
- [22] C. Chisari, L. Macorini, C. Amadio, and B. A. Izzuddin. Identification of mesoscale model parameters for brick-masonry. *International Journal of Solids and Structures*, 146:224 – 240, 2018.
- [23] A. Drougkas, P. Roca, and C. Molins. Analytical micro-modeling of masonry periodic unit cells - elastic properties. *International Journal of Solids and Structures*, 69-70:169 – 188, 2015.
- [24] P. Fajman, J. Máca, and P. Beran. Influence of temperature changes on the vladislav hall vault. *Acta Geodynamica et Geomaterialia*, 7(2):219–225, 2010.
- [25] A. L. Genau, P. W. Voorhees, and K. Thornton. The morphology of topologically complex interfaces. *Scripta Materialia*, 60(5):301–304, 2009.
- [26] Pratanu Ghosh, Petr Konecny, Petr Lehner, and Paul J. Tikalsky. Probabilistic time-dependent sensitivity analysis of HPC bridge deck exposed to chlorides. *COMPUTERS AND CONCRETE*, 19(3):305–313, MAR 2017.
- [27] V. Giamundo, V. Sarhosis, G.P. Lignola, Y. Sheng, and G. Manfredi. Evaluation of different computational modelling strategies for the analysis of low strength masonry structures. *Engineering Structures*, 73:160 – 169, 2014.

- [28] G. Hamdy, O. Kamal, O. Al-Hariri, and T. El-Salakawy. Plane and vaulted masonry elements strengthened by different techniques - testing, numerical modeling and nonlinear analysis. *Journal of Building Engineering*, 15:203 – 217, 2018.
- [29] D. J. Han and W.-F. Chen. A nonuniform hardening plasticity model for concrete materials. *Mechanics of materials*, 4(3-4):283–302, 1985.
- [30] Hibbett, Karlsson, and Sorensen. *ABAQUS: User's Manual*, volume 1. Hibbett, Karlsson & Sorensen, 1998.
- [31] S. Invernizzi, G. Lacidogna, N. E. Lozano-Ramirez, and A. Carpinteri. Structural monitoring and assessment of an ancient masonry tower. *Engineering Fracture Mechanics*, 2018.
- [32] B. L. Karihaloo. Fracture mechanics and structural concrete (concrete design and construction series). *Ed. Longman Scientific & Technical. United States*, 1995.
- [33] P. Konecny, J. Brozovsky, and V. Krivy. Simulation Based Reliability Assessment Method using Parallel Computing. In Topping, BHV and Ivanyi, P, editor, *Proceedings of the First International Conference on Parallel, Distributed and Grid Computing for Engineering*, number 90 in Civil Comp Proceedings, pages 542–549, 2009. 1st International Conference on Parallel, Distributed and Grid Computing for Engineering, Univ Pecs, Pollack Mihaly Fac Engn, Pecs, Hungary, Apr 06-08, 2009.
- [34] P. Konecny, P. Lehner, J. Brozovsky, and M. Krejsa. Multilevel durability analysis of concrete bridge deck exposed to chlorides. *Civil-Comp Proceedings*, 108, 2015.
- [35] N. Kumar, R. Amirtham, and M. Pandey. Plasticity based approach for failure modelling of unreinforced masonry. *Engineering Structures*, 80:40 – 52, 2014.
- [36] H. B. Kupfer and K. H. Gerstle. Behavior of concrete under biaxial stresses. *Journal of the Engineering Mechanics Division*, 99(4):853–866, 1973.
- [37] L. Leonetti, F. Greco, P. Trovalusci, R. Luciano, and R. Masiani. A multiscale damage analysis of periodic composites using a couple-stress/cauchy multidomain model: Application to masonry structures. *Composites Part B: Engineering*, 141:50 – 59, 2018.
- [38] P Marek, D Pustka, and P Konecny. Durability assessment of steel structures using SBRA method. In Ong, KCG and Maalej, M and Zhang, MH, editor, *8TH INTERNATIONAL CONFERENCE ON INSPECTION APPRAISAL REPAIRS & MAINTENANCE OF STRUCTURES*, pages 91–98, 150 ORCHARD ROAD #07-14, ORCHARD PLAZA, SINGAPORE, 238841, SINGAPORE. 2003. CI Premier Conf Org, CI-PREMIER PTE LTD. 8th International Conference on Inspection Appraisal Repairs and Maintenance of Structures, Singapore, SINGAPORE, DEC 18-19, 2003.

- [39] A. Maroušková. Factors affecting the accuracy of computations of historic structures. In *Advanced Materials Research*, volume 1122, pages 253–256. Trans Tech Publ, 2015.
- [40] M. Mascagni and A. Srinivasan. Algorithm 806: Sprng: A scalable library for pseudorandom number generation. *ACM Transactions on Mathematical Software*, 26:436–461, 2000.
- [41] B. C. N. Mercatoris, P. Bouillard, and T. J. Massart. Multi-scale detection of failure in planar masonry thin shells using computational homogenisation. *Engineering Fracture Mechanics*, 76(4):479 – 499, 2009.
- [42] G. Milani, P. B. Lourenco, and A. Tralli. Homogenised limit analysis of masonry walls, part i: Failure surfaces. *Computers & Structures*, 84(3):166 – 180, 2006.
- [43] G. Milani, P. B. Lourenco, and A. Tralli. Homogenised limit analysis of masonry walls, part ii: Structural examples. *Computers & Structures*, 84(3):181 – 195, 2006.
- [44] M. Mistler, A. Anthoine, and C. Butenweg. In-plane and out-of-plane homogenisation of masonry. *Computers & Structures*, 85(17):1321 – 1330, 2007. Computational Structures Technology.
- [45] T. M. H. Nguyen, E. Blond, A. Gasser, and T. Prietl. Mechanical homogenisation of masonry wall without mortar. *European Journal of Mechanics - A/Solids*, 28(3):535 – 544, 2009.
- [46] S. Di Nino, F. D’Annibale, and A. Luongo. A simple model for damage analysis of a frame-masonry shear-wall system. *International Journal of Solids and Structures*, 129:119 – 134, 2017.
- [47] G. N. Pande, J.X. Liang, and J. Middleton. Equivalent elastic moduli for unit masonry. *Computers and Geotechnics*, 8:243, 1989.
- [48] A. Rahgozar and A. Hosseini. Experimental and numerical assessment of in-plane monotonic response of ancient mortar brick masonry. *Construction and Building Materials*, 155:892 – 909, 2017.
- [49] P. Di Re, D. Addessi, and E. Sacco. A multiscale force-based curved beam element for masonry arches. *Computers & Structures*, 2018.
- [50] A. Rekik, T. T. N. Nguyen, and A. Gasser. Multi-level modeling of viscoelastic microcracked masonry. *International Journal of Solids and Structures*, 81:63 – 83, 2016.
- [51] P. K. Saha. Tensor scale: A local morphometric parameter with applications to computer vision and image processing. *Computer Vision and Image Understanding*, 99(3):384–413, 2005.
- [52] P. L. Saha and F. W. Wehrli. A robust method for measuring trabecular bone orientation anisotropy at in vivo resolution using tensor scale. *Pattern Recognition*, 37(9):1935–1944, 2004. Cited By (since 1996): 22.

- [53] V. Sarhosis and J. V. Lemos. A detailed micro-modelling approach for the structural analysis of masonry assemblages. *Computers & Structures*, 206:66 – 81, 2018.
- [54] J. Šejnoha, J. Novák, Z. Janda, J. Zeman, and M. Šejnoha. Stress and damage assesment of the charles bridge in prague. *Research Gate*, 2014.
- [55] N. N. Thaickavil and J. Thomas. Behaviour and strength assessment of masonry prisms. *Case Studies in Construction Materials*, 8:23 – 38, 2018.
- [56] J. Witzany, J. Brožovský, T. Čejka, K. Kroftová, J. Kubát, D. Makovička, and R. Zigler. The application of carbon composites in the rehabilitation of historic baroque vaults. *Polymers*, 7(12):2670–2689, 2015.
- [57] J. Witzany, T. Cejka, and R. Zigler. Problems of masonry strengthening with carbon- and glass fibre fabric. *Procedia Engineering*, 14:2086 – 2093, 2011. The Proceedings of the Twelfth East Asia-Pacific Conference on Structural Engineering and Construction.
- [58] J. Witzany, T. Cejka, and R. Zigler. Failure mechanism of compressed short brick masonry columns confined with frp strips. *Construction and Building Materials*, 63:180 – 188, 2014.
- [59] J. Witzany, R. Zigler, and K. Kroftová. Strengthening of compressed brick masonry walls with carbon composites. *Construction and Building Materials*, 112:1066 – 1079, 2016.
- [60] Y.P. Yuen and J.S. Kuang. Fourier-based incremental homogenisation of coupled unilateral damage-plasticity model for masonry structures. *International Journal of Solids and Structures*, 50(20):3361 – 3374, 2013.
- [61] P. Zampieri, N. Cavalagli, V. Gusella, and C. Pellegrino. Collapse displacements of masonry arch with geometrical uncertainties on spreading supports. *Computers & Structures*, 2018.
- [62] S. Zhang, M. Hofmann, and K. Beyer. A 2d typology generator for historical masonry elements. *Construction and Building Materials*, 184:440 – 453, 2018.
- [63] A. Zucchini and P. B. Lourenco. A micro-mechanical model for the homogenisation of masonry. *International Journal of Solids and Structures*, 39(12):3233 – 3255, 2002.
- [64] A. Zucchini and P. B. Lourenco. Mechanics of masonry in compression: Results from a homogenisation approach. *Computers & Structures*, 85(3):193 – 204, 2007.
- [65] A. Zucchini and P. B. Lourenco. A micro-mechanical homogenisation model for masonry: Application to shear walls. *International Journal of Solids and Structures*, 46(3):871 – 886, 2009.