

Tomáš Doktor

list of publications and citations

Publications

Journal papers

1. Doktor, T., Zlámál, P., Fíla, T., Koudelka, P., Kytýř, D., Jiroušek, O.: Properties of Polymer Filled Aluminium Foam under Moderate Strain Rate Loading Conditions, *Materiali in Tehnologije*, **48**(5), 2015, in press
2. Doktor, T., Kytýř, D., Koudelka, P., Zlámál, P., Fíla, T., Jiroušek, O.: Determination of Elastic-plastic Properties of Alporas Foam at Cell-wall Level using Microscale Cantilever Bending Tests, *Materiali in Tehnologije*, **48**(3), 2015, in press
3. Kytýř, D., Fíla, T., Šleichrt, J., Doktor, T., Šperl, M.: Assessment of Post Impact Damage Propagation in Carbon-fibre Composite under Cyclic Loading, *Materiali in Tehnologije*, **48**(5), 2014, 25–28
4. Koudelka, P., Jandejsek, I., Doktor, T., Kytýř, D., Jiroušek, O., Zíma, P., Drdácký, M.: Radiographical Investigation of Fluid Penetration Processes in Natural Stones Used in Historical Buildings, *Journal of Instrumentation*, **9**(5), 2014, C05040
5. Fíla, T., Kytýř, D., Zlámál, P., Kumpová, I., Doktor, T., Koudelka, P., Jiroušek, O.: High-Resolution Time-lapse Tomography of Rat Vertebrae During Compressive Loading: Deformation Response Analysis, *Journal of Instrumentation*, **9**(5), 2014, C05054
6. Fíla, T., Kytýř, D., Koudelka, P., Doktor, T., Zlámál, P., Jiroušek, O.: Micro-mechanical testing of metal foam cell walls using miniature three-point bending, *Key Engineering Materials* **586**, 2014, 120–125
7. Koudelka, P., Kytýř, D., Petráňová, V., Lukeš, J., Doktor, T., Valach, J.: Material testing of natural stones used in historical buildings based on scanning electron microscopy and nanoindentation, *Key Engineering Materials*, **586**, 2014, 186–189
8. Zlámál, P., Doktor, T., Jiroušek, O., Jandejsek, I.: Verification of Numerical Model for Trabecular Tissue using Compression Test and Time-Lapse X-Ray Radiography based on Material Model Determined from Three-Point Bending Test of Single Trabecula, *Key Engineering Materials*, **586**, 2014, 265–269
9. Zlámál, P., Jiroušek, O., Kytýř, D., Doktor, T.: Indirect determination of material model parameters for single trabecula based on nanoindentation and three-point bending test, *Acta Technica*, **582**, 2013, 157–171
10. Jiroušek, O., Doktor, T., Kytýř, D., Zlámál, P., Fíla, T., Koudelka, P., Jandejsek, I., Vavřík, D.: X-ray and finite element analysis of deformation response of closed-cell metal foam subjected to compressive loading, *Journal of Instrumentation*, **8**(2), 2013, C02012
11. Jiroušek, O., Kytýř, D., Doktor, T., Dammer, J., Krejčí, F.: Displacement tracking in single human trabecula with metal-plated micro-spheres using X-ray radiography imaging, *Journal of Instrumentation*, **8**(2), 2013, C02041
12. Koudelka, P., Doktor, T., Valach, J., Kytýř, D., Jiroušek, O.: Effective Elastic Moduli of Closed-cell Aluminium Foams - Homogenization Method. *U.P.B. science bulletin, Series D*, **75**(1), 2013, 161–170
13. Doktor, T., Valach, J., Kytýř, D., Fíla, T., Minster, J., Kostecká, M.: Analysis of CFRP cross-section surface roughness evolution under fatigue loading, *Chemické listy*, **106**(S3), 2012, s399–s400

14. Jiroušek, O., Kytýř, D., Zlámal, P., Doktor, T., Šepitka, J., Lukeš, J.: Use of modulus mapping technique to investigate cross-sectional material properties of extracted single human trabeculae, *Chemické listy*, **106**(S3), 2012, s441–s445
15. Valach, J., Žďárský, M., Kytýř, D., Doktor, T., Šperl, M.: Innovative determination of local distribution of hardness for investigation of material behavior under load approaching its strength, *Chemické listy*, **106**(S3), 2012, s551–s554
16. Zlámal, P., Jiroušek, O., Doktor, T., Kytýř, D.: Modelling elasto-plastic behaviour of human single trabecula – comparison with bending test, *Journal of Biomechanics*, **45**(S1), 2012, s479
17. Jiroušek, O., Doktor, T., Kytýř, D., Zlámal, P.: X-ray radiography of three-point bending of single human trabecula, *Journal of Biomechanics*, **45**(S1), 2012, s261
18. Doktor, T., Jiroušek, O., Kytýř, D., Zlámal, P., Jandajsek, I.: Real-time X-ray microradiographic imaging and image correlation for local strain mapping in single trabecula under mechanical load, *Journal of Instrumentation*, **6**(11), 2011, C11007
19. Jiroušek, O., Nemeček, J., Kytýř, D., Kunecký, J. K., Zlámal, P., Doktor, T.: Nanoindentation of trabecular bone-comparison with uniaxial testing of single trabecula, *Chemické listy*, **105**(17), 2011, 668–671,
20. Dudíková, M., Kytýř, D., Doktor, T., Jiroušek, O.: Monitoring of material surface polishing procedure using confocal microscope, *Chemické listy*, **105**(17), 2011, 790–791
21. Valach, J., Kytýř, D., Doktor, T., Sekyrová, K., Králík, V., Nemeček, J.: Comparison of mechanical properties of CFRP laminate obtained from full-scale test and extrapolated from local measurement, *Chemické listy*, **105**(17), 2011, 729–732
22. Kytýř, D., Doktor, T., Jiroušek, O., Zlámal, P., Pokorný, D.: Experimental and numerical study of cemented bone-implant interface behaviour, *Frattura ed Integrità Strutturale*, **15**, 2011, 5–13
23. Jiroušek, O., Jíra, J., Hrdlička, O., Kunecký, J. K., Kytýř, D., Vyčichl, J., Doktor, T.: Numerical modelling of the reinforcing effect of geosynthetic material used in a ballasted railway tracks, *Proc. of the Inst. of Mech. Eng. Part F-Journal of Rail and Rapid Transit*, **224**(4), 2010, 259–267

Conference papers

1. Doktor, T., Kytýř, D., Zlámal, P., Fíla, T., Koudelka., P., Jiroušek, O.: Simulation of a three-point bending test on the isolated cell wall of aluminium foam. In *Proceedings of the 14th International Conference on Civil, Structural and Environmental Engineering Computing*, 2013
2. Zlámal, P. ; Jiroušek, O. ; Doktor, T. ; Fíla, T. ; Kytýř, D. Compressive behaviour of trabecular tissue: finite element modelling and comparison using digital volume correlation. In *Proceedings of the 14th International Conference on Civil, Structural and Environmental Engineering Computing*, 2013
3. Koudelka., P. ; Zlámal, P. ; Kytýř, D. ; Doktor, T. ; Fíla, T. ; Jiroušek, O. On the modeling of the compressive behaviour of metal foams: a comparison of discretization schemes. In *Proceedings of the 14th International Conference on Civil, Structural and Environmental Engineering Computing*, 2013
4. Jiroušek, O., Doktor, T., Kytýř, D., Zlámal, P.: Instrumentation for micromechanics research in trabecular bone, In *10th IASTED International Conference on Biomedical Engineering*, ACTA Press, Innsbruck, pp. 120–124, 2013
5. Doktor, T., Fenclová, N., Kytýř, D., Valach, J.: Hardness distribution mapping in low carbon pipeline steel using semiautomatic evaluation of Vickers indentation measurement, In *13th Bilateral Czech/German Symposium on Experimental Methods and Numerical Simulation in Engineering Sciences*, pp. 31–34, 2012

6. Doktor, T., Kytýř, D., Zlámal, P., Jiroušek, O.: Development of volume model of irregular shaped objects for numerical simulations using shape-from-silhouette method, In 11th Youth Symposium on Experimental Solid Mechanics, Transilvania University, Braşov, pp. 88–91, 2012
7. Koudelka, P., Doktor, T., Valach, J., Kytýř, D., Jiroušek, O., Jiroušek, O.: Effective elastic moduli of closed-cell aluminium foams - homogenization method, In 11th Youth Symposium on Experimental Solid Mechanics, Transilvania University, Braşov, pp. 244–250, 2012
8. Koudelka, P., Jiroušek, O., Doktor, T., Zlámal, P., Fíla, T.: Comparative study on numerical and analytical assessment of elastic properties of metal foams, In Engineering Mechanics, pp. 691–701, 2012
9. Kytýř, D., Jiroušek, O., Zlámal, P., Doktor, T., Jandajsek, I.: Early defect detection of acetabular implants, In Engineering Mechanics, pp. 825–834, 2012
10. Zlámal, P., Jiroušek, O., Kytýř, D., Doktor, T.: Indirect determination of material model parameters for single trabecula based on nanoindentation and three-point bending test, In Engineering Mechanics, pp. 1611–1620, 2012
11. Fíla, T., Zlámal, P., Koudelka, P., Jiroušek, O., Doktor, T., Kytýř, D.: Design and use of novel compression device for microtomography under applied load, In Engineering Mechanics, pp. 239–244, 2012
12. Jiroušek, J., Kytýř, D., Kunecký, J., Zlámal, P., Doktor, T., Němeček, J.: Simulation of the Mechanical Behaviour of a Single Human Trabecula assessed with a Micromechanical Test and Nanoindentation, In Proc. of 13th International Conference on Civil, Structural and Environmental Engineering Computing, Edinburgh, 2011
13. Doktor, T., Valach, J., Kytýř, D., Jiroušek, O., Kostecká, M.: Improvements of an Analysis Tool for the Pore Size Distribution Assessment, In 10th Youth Symposium on Experimental Solid Mechanics, Technische Universität Chemnitz, pp. 45–46, 2011
14. Kytýř, D., Valach, J., Doktor, T., Jiroušek, J., Zlámal, P., Kostecká, M.: Evaluation of sample preparation procedures for micro-mechanical testing of trabecular bone, In 10th Youth Symposium on Experimental Solid Mechanics, Technische Universität Chemnitz, pp. 71–72, 2011
15. Doktor, T., Valach, J., Kytýř, D., Jiroušek, O.: Pore Size Distribution of Human Trabecular Bone - Comparison of Intrusion Measurements with Image Analysis, In Engineering Mechanics 2011, Institute of Thermomechanics AS CR, Praha, 2011, pp: 115–118, 2011
16. Kytýř, D., Valach, J., Doktor, T., Jiroušek, O.: Assessment of C/PPS Composites Degradation Indicators using Acoustic Measurement, In Engineering Mechanics 2011, Institute of Thermomechanics AS CR, 2011, pp: 355–358, 2011
17. Doktor, T., Kytýř, D., Valach, J., Jiroušek, O.: Assessment of pore size distribution using image analysis, In 9th Youth Symposium on Experimental Solid Mechanics, University of Trieste, pp: 155–157, 2010

University theses

1. Doktor, T.: Assessment of pore size distribution using image analysis, Czech Technical University in Prague, 2011, supervisor Daniel Kytýř
2. Doktor, T.: Finite element analysis of increasing of trackbed bearing capacity using geosynthetics (in Czech), Bachelor thesis, Czech Technical University in Prague, 2009, supervisor Daniel Kytýř

Other achievements

1. Jiroušek, O., Kunecký, J. K., Kytýř, D., Zlámal, P., Doktor, T.: Microtensile loading device for experiments with single trabeculae, functional prototype, 2010