

PUBLICATIONS

Peer-reviewed articles

1. I. Lončarević, Lj. Budinski-Petković, D. Dujak, A. Karač, Z. M. Jakšić, and S. B. Vrhovac, *Percolation in irreversible deposition on a triangular lattice: Effects of anisotropy*, J. Stat. Mech.: Theory and Experiment, 033211, 2020.
2. J.R. Šćepanović, A. Karač, Z.M. Jakšić, Lj. Budinski-Petković, S.B. Vrhovac, Group chase and escape in the presence of obstacles, Physica A, 525: 450- 465, 2019.
3. I. Lončarević, D. Dujak, Z.M. Jakšić, A. Karač, Lj. Budinski-Petković, S.B. Vrhovac, *Anomalous tracer diffusion in the presence of extended obstacles on a triangular lattice*, Physica A, 527: 121258, 2019.
4. D. Dujak, A. Karač Lj. Budinski-Petković, I. Lončarević, Z.M. Jakšić, S.B. Vrhovac, *Percolation in random sequential adsorption of mixtures on a triangular lattice*, Journal of Statistical Mechanics, 113210, 2019.
5. Ž. Tuković, A. Karač, P. Cardiff, H. Jasak, A. Ivanković, *OpenFOAM Finite Volume Solver for Fluid Structure Interaction*, Transactions of FAMENA, 42 (3), 1-31, 2018.
6. I. Lončarević, Lj. Budinski-Petković, D. Dujak, A. Karač, Z.M. Jakšić, S.B. Vrhovac, *The study of percolation with the presence of extended impurities*, Journal of Statistical Mechanics, 093202, 2017.
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8. A. Tabaković, L. Schuyffel, A. Karač, E. Schlangen, *Healing Efficiency of Compartmented Alginate Fibres Encapsulating Rejuvenator as Asphalt Pavement Healing System*, Applied Sciences, 7 (7), 647, 2017.
9. Lj. Budinski-Petković, I. Lončarević, D. Dujak, A. Karač, J.R. Šćepanović, Z.M. Jakšić, S. B. Vrhovac, *Particle morphology effects in random sequential adsorption*, Physical Review E, 95, 022114, 2017.
10. D. Mc Auliffe, A. Karac, N. Murphy, A. Ivankovic, *The measurement of damage initiation, particle adhesion and cohesive strength from traction displacement curves of a nano-toughened epoxy*, International Journal of Adhesion and Adhesives, 30: 62-73, 2016.
11. Kačmarčik J., Konjatić P., Karač A., *Fracture Mode-Mixity in Symmetrical Beam Specimens: Fpz Length Influence*, Mašinstvo, 13(3): 163-171, 2016.
12. D. Dujak, I. Lončarević, Lj. Budinski-Petković, S. B. Vrhovac, A. Karač, *Adsorption-desorption processes of polydisperse mixtures on a triangular lattice*, Physical Review E, 91, 032414, 2015.
13. Kačmarčik J.,Konjatić P.,Karač A., *Investigation of the mixed-mode fracture in delamination tests: Numerical simulations using Cohesive Zone and partitioning methods*, Tehnički vjesnik, 22(3): 711-719, 2015.
14. D. Dujak, A. Karač, Z.M. Jakšić, D. Vasiljević, S. Vrhovac, *Detecting a Structure in Two Dimensions Combining the Voronoï Tessellation and a Shape Factor*, Scientific Technical Review, 64 (1):13-20, 2014.
15. P. Cardiff, A.Karač, D. FitzPatrick, R. Flavin and A. Ivanković, *Development of Mapped Hill-Type Muscle Boundary Conditions for Finite Volume Simulations of the Hip Joint*, International journal for numerical methods in biomedical engineering, 30 (9), p.890-908, 2014.
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23. J. Mohan, A. Karač, Neal Murphy, Alojz Ivanković, *An Experimental and Numerical Investigation of the Mixed-Mode Fracture Toughness and Lap Shear Strength of Aerospace Grade Composite Joints*, Key Engineering Materials: Advances in Fracture and Damage Mechanics X, 488-489: 549-552, 2012.

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28. A. Karac, A. Ivankovic. *Investigating the behaviour of fluid-filled polyethylene containers under base drop impact: a combined experimental/numerical approach*. International Journal of Impact Engineering, 36(4): 621-631, 2009.
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Conferences and proceedings

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2. Golubović, A., Karač, A., *Development of OpenFoam solver for autoclave cure simulation of composites*, ECCOMAS MSF 2019, Sarajevo, 2019.
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6. Kačmarčik, J., Konjatić, P. i Karač, A., *Osvrt na metode podjele energije loma u pokusima delaminacije s grednim uzorcima*, 8. susreti Hrvatskog društva za mehaniku, Osijek, 2017.
7. P. Cardiff, A. Karač, P. De Jaeger, H. Jasak, J. Nagy, A. Ivankovic, Z. Tukovic. *Towards the Development of an Extendable Solid Mechanics and Fluid-Solid Interactions Toolbox for OpenFOAM*, 12th OpenFOAM Workshop, At University of Exeter, Exeter, UK, 2017.
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13. P. Cardiff, A. Z. Tukovic, A. Karac, A. Ivankovic, *Nonlinear solid mechanics in OpenFOAM*, 9th OpenFOAM Workshop, Zagreb, Croatia, 2014.
14. P. Cardiff, Z. Tukovic, A. Karac, H. Jasak, A. Ivankovic, *OpenFOAM library for Fluid-Structure Interaction*, 9th OpenFOAM Workshop, Zagreb, Croatia, 2014.

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22. Kinloch, A. J. , Karac, A., Blackman, B. R. K., Cooper, V. , Rodriguez Sanchez, S. , Teo, W. S., Ivankovic, A. , *Modelling the fracture behaviour of adhesively-bonded joints as a function of test rate*, 36th Annual Meeting of The Adhesion Society, Hilton Daytona Beach, Daytona, FL, USA, 2013.
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29. Dijana Dujak, Aleksandar Karač, Slobodan Vrhovac, *Effects of the inelasticity of granules and the density of granular systems on the cooling process*, The 43rd International October Conference on Mining and Metallurgy, 12-15 October, Kladovo, Serbia, 2011.
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31. D. McAuliffe, A. Karač, N. Murphy & A. Ivanković, *Transferability of Fracture Properties between Peel and TDCB Tests for a Nano-Toughened Epoxy Adhesive*, 6th International Conference on Fracture of Polymers, Composites and Adhesives, September 11-15, Les Diablerets, Switzerland, 2011.
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52. V. Cooper, A. Ivankovic, A. Karac, D. McAuliffe, N. Murphy, Z. Tukovic. *The Effect of Constraint on the Fracture Toughness of Adhesively Bonded Joints*. U Zborniku 32nd Annual Meeting of the Adhesion Society, Savannah, Georgia, USA, 2009.
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