

# Dr hab. eng. arch. Janek Kozicki, prof. PG

## List of publications and conference proceedings

### Publications in journals from ISI Master Journal List<sup>1</sup> (high impact factor)

- [1] P. JASIK, J. KOZICKI, T. KILICH, J.E. SIENKIEWICZ, N. E. HENRIKSEN, Electronic structure and rovibrational predissociation of the  $2^1\Pi$  state in KLi *Physical Chemistry Chemical Physics* DOI: 10.1039/c8cp02551g **2018**. 40 KBN points , IF:3.90
- [2] P. JASIK, T. KILICH, J. KOZICKI, J.E. SIENKIEWICZ, Potential energy surfaces of the low-lying electronic states of the Li+LiCs system. *Chemical Physics Letters* DOI: 10.1016/j.cplett.2018.02.005, Vol: 695, pp. 119–124, **2018**. 30 KBN points , IF:1.74
- [3] J. KOZICKI, J. TEJCHMAN, Relationship between vortex structures and shear localization in 3D granular specimens based on combined DEM and Helmholtz–Hodge decomposition *Granular Matter* DOI 10.1007/s10035-018-0815-0, 20:48 **2018**. 30 KBN points , IF:1.76
- [4] J. KOZICKI, J. TEJCHMAN, Investigations of quasi-static vortex structures in 2D sand specimen under passive earth pressure conditions based on DEM and Helmholtz-Hodge vector field decomposition. *Granular Matter* DOI 10.1007/s10035-017-0714-9 **2017**. 30 KBN points , IF:1.76
- [5] J. KOZICKI, J. TEJCHMAN, DEM investigations of two-dimensional granular vortex- and anti-vortex structures during plane strain compression. *Granular Matter*, DOI 10.1007/s10035-016-0627-z **2016**. 30 KBN points , IF:1.74
- [6] M. NITKA, J. TEJCHMAN, J. KOZICKI, D. LEŚNIEWSKA, DEM analysis of micro-structural events within granular shear zones under passive earth pressure conditions. *Granular Matter*, DOI 10.1007/s10035-015-0558-0 **2015**. 30 KBN points , IF:1.74
- [7] J. KOZICKI, J. TEJCHMAN, H.B. MUHLHAUS, Discrete simulations of a triaxial compression test for sand by DEM. *International Journal for Numerical and Analytical Methods in Geomechanics*, DOI 10.1002/nag.2285 **2014**. 25 KBN points , IF:1.758
- [8] Ł. SKARŻYŃSKI, J. KOZICKI, J. TEJCHMAN, Application of DIC Technique to Concrete–Study on Objectivity of Measured Surface Displacements. *Experimental Mechanics*, DOI 10.1007/s11340-013-9781-y **2013**. 35 KBN points , IF:1.567
- [9] M. NIEDOSTATKIEWICZ, J. KOZICKI, J. TEJCHMAN, H.B. MUHLHAUS, Discrete modelling results of a direct shear test for granular materials versus FE results. *Granular Matter* 15, 607–627, DOI: 10.1007/s10035-013-0423-y **2013**. 30 KBN points , IF:1.74
- [10] J. KOZICKI, J. TEJCHMAN, Z. MRÓZ, Effect of grain roughness on strength, volume changes, elastic and dissipated energies during quasi-static homogeneous triaxial compression using DEM. *Granular Matter*, Vol. 14 Issue 4, pages 457–468, DOI: 10.1007/s10035-012-0352-1 **2012**. 30 KBN points , IF:1.74
- [11] J. KOZICKI, J. KOZICKA, Human Friendly Architectural Design for a small Martian Base. *Advances in Space Research*, Vol. 48, 15 December 2011, pages 1997–2004, DOI: 10.1016/j.asr.2011.08.032 **2011**. 20 KBN points , IF:1.409
- [12] Ł. WIDULIŃSKI, J. KOZICKI, J. TEJCHMAN, D. LEŚNIEWSKA, Discrete simulations of shear zone patterning in sand in earth pressure problems of a retaining wall. *International Journal of Solids and Structures*, Vol. 48, pages 1191–1209, DOI: 10.1016/j.ijsolstr.2011.01.005 **2011**. 35 KBN points , IF:2.081
- [13] J. KOZICKI, J. TEJCHMAN, Effect of steel fibres on concrete behavior in 2D and 3D simulations using lattice model. *Archives of Mechanics*, Vol. 62, pages 465–492, **2010**. 25 KBN points , IF:0.923

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<sup>1</sup>Institute for Scientific Information Master Journal List also known as „Philadelphian List”, see <http://scientific.thomson.com/mjl/>

- [14] J. KOZICKI, F. V. DONZÉ, Yade–open DEM: an open–source software using a discrete element method to simulate granular material *Engineering Computations*, Vol. 26 Issue 7, pages 786–805, DOI: 10.1108/02644400910985170 **2009**. 20 KBN points , IF:0.691
- [15] J. KOZICKI, F. V. DONZÉ, A new open–source software developed for numerical simulations using discrete modeling methods. *Computer Methods in Applied Mechanics and Engineering*, Vol. 197, pages 4429–4443, <http://dx.doi.org/10.1016/j.cma.2008.05.023>, **2008**. 45 KBN points , IF:3.467
- [16] J. KOZICKI, J. TEJCHMAN, Modelling of fracture process in concrete using a novel lattice model. *Granular Matter*, Vol. 10, pages 377–388, DOI: 10.1007/s10035-008-0104-4 **2008**. 30 KBN points , IF:1.74
- [17] J. KOZICKI, J. TEJCHMAN, Effect of aggregate structure on fracture process in concrete using 2D lattice model. *Archives of Mechanics*, Vol. 59, No 4–5, pages 365–384, **2007**. 25 KBN points , IF:0.923
- [18] J. KOZICKI, J. TEJCHMAN, Application of a cellular automaton to simulations of granular flow in silos. *Granular Matter*, Vol. 7, No 1, pages 45–54, DOI: 10.1007/s10035-004-0190-x **2005**. 30 KBN points , IF:1.74

### Books

- [19] J. TEJCHMAN, J. KOZICKI, Experimental and Theoretical Investigations of Steel–Fibrous Concrete. *Springer Series in Geomechanics & Geoengineering*, **2010**. 24 KBN points
- [20] J. TEJCHMAN, J. KOZICKI, Steel–fibrous concrete, experiments and a numerical model. *Gdansk University of Technology Publishers*, **2009**. 24 KBN points
- [21] J. KOZICKI, Application of Discrete Models to Describe the Fracture Process in Brittle Materials. *Gdansk University of Technology*, PhD thesis, **2007**.

### Publications in peer–reviewed journals

- [22] Ł. WIDULIŃSKI, J. KOZICKI, J. TEJCHMAN, Numerical simulations of triaxial test with sand using DEM *Archives of Hydro–Engineering and Environmental Mechanics*, Vol. 56, No 3–4, pages 149–172, **2009**. 14 KBN points
- [23] J. KOZICKI, J. TEJCHMAN, Experimental investigations of strain localization in concrete using Digital Image Correlation (DIC) technique. *Archives of Hydro–Engineering and Environmental Mechanics*, Vol. 54, No 1, pages 3–24, **2007**. 14 KBN points
- [24] J. KOZICKI, J. TEJCHMAN, 2D Lattice Model for Fracture in Brittle Materials. *Archives of Hydro–Engineering and Environmental Mechanics*, Vol. 53, No 2, pages 71–88, **2006**. 14 KBN points
- [25] J. KOZICKI, J. TEJCHMAN, Simulations of Behavior of Granular Bodies using a Lattice Gas Automaton. *Archives of Hydro–Engineering and Environmental Mechanics*, Vol. 52, No 1, pages 21–37, **2005**. 14 KBN points
- [26] J. KOZICKI, J. TEJCHMAN, Simulations of flow pattern in silos with a cellular automaton, part I. *Task Quarterly, Gdansk University of Technology*, No 1, **2005**. 10 KBN points
- [27] J. KOZICKI, J. TEJCHMAN, Simulations of flow pattern in silos with a cellular automaton, part II. *Task Quarterly, Gdansk University of Technology*, No 2, **2005**. 10 KBN points
- [28] J. KOZICKI, Discrete lattice model used to describe the fracture process of concrete. *Discrete Element Group for Risk Mitigation Annual Report 1, Grenoble University of Joseph Fourier, France*, pages 95–101, **2005**.
- [29] J. KOZICKI, J. TEJCHMAN, Application of a cellular automata model to granular flow. *Task Quarterly, Gdansk University of Technology*, Vol. 6, No 3, pages 429–436, **2002**. 9 KBN points
- [30] J. KOZICKI, J. TEJCHMAN, Simulations of granular flow in silos with a cellular automata model. *International Journal of Storing, Handling and Processing Powder*, pages 267–275, **2001**.

## Conference materials

- [31] J. KOZICKI, J. TEJCHMAN, Investigations of Vortex–Structures in Granular Bodies Based on DEM and Helmholtz–Hodge Flow Field Decomposition *Springer Series in Geomechanics and Geoengineering* DOI: 10.1007/978-3-319-56397-8\_56, **2017**.
- [32] J. KOZICKI, J. TEJCHMAN, Investigations of formation of quasi–static vortex–structures in granular bodies using DEM *8<sup>th</sup> International Conference on Micromechanics of Granular Media, Powders and Grains (P&G 2017)*, *EPJ Web of Conferences* DOI: 10.1051/epjconf/201714003006, Vol: 140, Montpellier, France, 3-7 July, **2017**.
- [33] M. NITKA, J. TEJCHMAN, J. KOZICKI, D. LEŚNIEWSKA, Effect of mean grain diameter on vortices, force chains and local volume changes in granular shear zones *3<sup>rd</sup> International Symposium on Geomechanics from Micro to Macro*, University of Cambridge, England, 1-3 September 2014, Taylor and Francis 2015, **2015**.
- [34] M. NITKA, J. TEJCHMAN, J. KOZICKI, Discrete Modelling of Micro–structural Phenomena in Granular Shear Zones *Proceedings of the 10<sup>th</sup> International Workshop on Bifurcation and Degradation of Geomaterials*, Springer Series in Geomechanics and Geoengineering, Eds: KT. Chau and J. Zhao, DOI: 10.1007/978-3-319-13506-9\_2, **2015**.
- [35] J. KOZICKI, J. TEJCHMAN, D. LEŚNIEWSKA, Study of some micro–structural phenomena in granular shear zones *7<sup>th</sup> International Conference on Micromechanics of Granular Media, Powders and Grains (P&G 2013)*, Sydney, Australia, 8-12 July, DOI: 10.1063/1.4811976 **2013**.
- [36] M. NITKA, J. TEJCHMAN, J. KOZICKI, Investigations of micro–structure evolution in granular shear zones using DEM *2<sup>nd</sup> III International Conference on Particle-Based Methods – Fundamentals and Applications (PARTICLES 2013)*, **2013**.
- [37] J. KOZICKI, J. TEJCHMAN, Numerical simulations of homogeneous triaxial test of granulates using DEM *Computer Methods in Mechanics (CMM 2011)*, 9–12 May 2011, Warsaw, Poland, **2011**.
- [38] J. KOZICKI, J. TEJCHMAN, Numerical simulations of sand behaviour using DEM with two different descriptions of grain roughness *2<sup>nd</sup> International Conference on Particle-based Methods (PARTICLES 2011)*, **2011**.
- [39] J. KOZICKI, Building a prototype of a Martian base in Poland, an architectural design overview and progress report *38<sup>th</sup> Committee on Space Research Scientific Assembly (COSPAR 2010)*, Bremen, Germany, 18-25 July, **2010**.
- [40] J. KOZICKI, J. KOZICKA, Architectural concepts of Martian bases built: of domes, around greenhouses and into slopes - the human aspect and the technology *38<sup>th</sup> Committee on Space Research Scientific Assembly (COSPAR 2010)*, Bremen, Germany, 18-25 July, **2010**.
- [41] J. MEYSSONNIER, C. BRUTEL–VUILMET, B. CHAREYRE, F. DARVE, F. FLIN, L. GILLIBERT, A-S. HASAN, J. KOZICKI, B. LESAFFRE, W. LÜDWIG, F. NICOT, A. PHILLIP, S. ROLLAND, Experimental micromechanics of dry snow *4<sup>th</sup> International Center for Applied Computational Mechanics, Scale transition for plastic crystalline and microstructured materials: from experiment to numerical modeling (ICACM 2010)*, Paris, France, 2-4 June, **2010**.
- [42] L. GILLIBERT, F. FLIN, J. KOZICKI, S. ROLLAND, W. LUDWIG, D. COEURJOLLY, B. CHAREYRE, A. PHILIP, B. LESAFFRE, J. MEYSSONNIER, Curvature-driven grain segmentation of snow *3<sup>rd</sup> International Workshop on 3D Imaging, Analysis, Modeling and Simulation of Macroscopic Properties (W3D 2010)*, Fontainebleau, France, 20-21 April, **2010**.
- [43] Ł. WIDULIŃSKI, J. KOZICKI, J. TEJCHMAN, Comparative modeling of shear localization in granular bodies with FEM and DEM *Soil Behavior and Geo-Micromechanics (GSP 200): Proceedings of Sessions of GeoShanghai 2010 International Conference, Shanghai, China, June 3-5, 2010*, **2010**.
- [44] J. KOZICKI, J. TEJCHMAN, A 3D lattice model to describe fracture process in fibrous concrete *Computational Modelling of Concrete Structures (EURO-C 2010)*, **2010**.

- [45] Ł. WIDULIŃSKI, J. TEJCHMAN, J. KOZICKI, Discrete Simulations of Shear Zones in Sand in Earth Pressure Problems of a Retaining Wall *37<sup>th</sup> Solid Mechanics Conference (SOLMECH 2010)*, Warsaw, Poland, 6-10 September, **2010**.
- [46] Ł. WIDULIŃSKI, J. KOZICKI, J. TEJCHMAN, Modeling of the Behaviour of Granular Bodies using DEM with Contact Moments *6<sup>th</sup> International Conference on Micromechanics of Granular Media, Powders and Grains (P&G 2009)*, Golden, Colorado, USA, 13-17 July, **2009**.
- [47] J. KOZICKI, J. TEJCHMAN, Numerical simulations of the behavior of granular bodies using DEM *International Symposium on Computational Geomechanics, (ComGeo 2009)*, Juan-les-Pins, France, 29 April 1 May, **2009**.
- [48] J. KOZICKI, J. TEJCHMAN, Modeling of Fracture Process in Fibrous Concrete Using a Lattice Model *X International Conference on Computational Plasticity, (ECCOMAS, COMPLAS X 2009)*, Barcelona, Spain, 2-4 September, **2009**.
- [49] Ł. WIDULIŃSKI, J. KOZICKI, J. TEJCHMAN, Numerical simulations of a triaxial test in granular bodies using discrete particle simulations with contact moments *Proc. Conf. Computer Methods in Mechanics (CMM 2009)*, Zielona Góra, Poland, 18-21 May, **2009**.
- [50] J. KOZICKI, J. TEJCHMAN, Simulation of fracture process in fibrous concrete *Proc. Conf. Computer Methods in Mechanics (CMM 2009)*, Zielona Góra, Poland, 18-21 May, **2009**.
- [51] J. KOZICKI, Architectural design proposal for a Martian base to continue NASA Mars Design Reference Mission *37<sup>th</sup> Committee on Space Research Scientific Assembly (COSPAR 2008)*, Montreal, Canada, 13-20 July, **2008**.
- [52] J. KOZICKI, Gravity in the gamma ray spectrum *37<sup>th</sup> Committee on Space Research Scientific Assembly (COSPAR 2008)*, Montreal, Canada, 13-20 July, **2008**.
- [53] J. KOZICKI, J. TEJCHMAN, Simulation of fracture process in concrete with steel fibres. *6<sup>th</sup> International Conference on Analytical Models and New Concepts in Concrete and Masonry Structures (AMCM 2008)*, Lodz, Poland, 9–11 June, **2008**.
- [54] J. KOZICKI, J. TEJCHMAN, Application of DEM to describe concrete behaviour under compression and tension. *6<sup>th</sup> International Conference on Analytical Models and New Concepts in Concrete and Masonry Structures (AMCM 2008)*, Lodz, Poland, 9–11 June, **2008**.
- [55] J. KOZICKI, J. TEJCHMAN, Modeling of fracture process in concrete elements including steel fibres using a novel lattice model. *5<sup>th</sup> European Congress on Computational Methods in Applied Sciences and Engineering (ECCOMAS 2008)*, Venice, Italy, 30 June – 4 July **2008**.
- [56] J. KOZICKI, J. TEJCHMAN, Simulation of fracture process in concrete elements with steel fibres using discrete lattice model. *36<sup>th</sup> Solid Mechanics Conference (SOLMECH 2008)*, Gdansk, Poland September 9–12 **2008**.
- [57] J. KOZICKI, J. TEJCHMAN, B. CHAREYRE, Comparative modeling of shear localization in granular bodies using a discrete and continuum approach. *36<sup>th</sup> Solid Mechanics Conference (SOLMECH 2008)*, Gdansk, Poland September 9–12 **2008**.
- [58] J. BOBINSKI, J. KOZICKI, J. TEJCHMAN, Investigations of size effects in concrete under bending. *Int. Conf. on Computational Fracture and Failure of Materials and Structures (CFRAC 2007)*, page 107, Nantes, 11–13 June **2007**.
- [59] J. KOZICKI, J. TEJCHMAN, Simulations of fracture processes in concrete using a 3D lattice model. *Int. Conf. on Computational Fracture and Failure of Materials and Structures (CFRAC 2007)*, pages 62–63, Nantes, 11–13 June **2007**.
- [60] J. KOZICKI, J. TEJCHMAN, Investigations of size effect in tensile fracture of concrete using a lattice model. *Proc. Conf. Modelling of Heterogeneous Materials with Applications in Construction and Biomedical Engineering (MHM 2007)*, pages 246–249, Prague, 24–27 June **2007**.

- [61] J. KOZICKI, J. TEJCHMAN, Effect of aggregate density on fracture process in concrete using 2D discrete lattice model. *Proc. Conf. Computer Methods in Mechanics (CMM 2007)*, Lodz-Spala, 19-22 June **2007**.
- [62] J. KOZICKI, J. TEJCHMAN, Modelling of a direct shear test in granular bodies with a continuum and a discrete approach. *Proc. Conf. Computer Methods in Mechanics (CMM 2007)*, Lodz-Spala, 19-22 June **2007**.
- [63] J. KOZICKI, J. TEJCHMAN, Modelling of fracture process in brittle materials using a lattice model. *Computational Modelling of Concrete Structures, EURO-C (eds.: G. Meschke, R. de Borst, H. Mang and N. Bicanic)*, Taylor and Francis, pages 139–145, **2006**.
- [64] J. KOZICKI, J. TEJCHMAN, Lattice type fracture model for brittle materials. *35th Solid Mechanics Conference (SOLMECH 2006)*, pages 215–216, Krakow, 4–8 September **2006**.
- [65] M. NIEDOSTATKIEWICZ, J. KOZICKI, J. TEJCHMAN, Measurements of strain localization in granular and brittle specimens using a digital image correlation technique. *35th Solid Mechanics Conference (SOLMECH 2006)*, pages 93–94, Krakow, 4–8 September **2006**.
- [66] J. KOZICKI, J. TEJCHMAN, Simulations of granular flow with a lattice-gas automaton. *Proc. Conf. Computer Methods in Mechanics (CMM 2005)*, Czestochowa, Poland, June 21–24 **2005**.
- [67] J. KOZICKI, J. TEJCHMAN, Simulations of fracture in concrete elements using a discrete lattice model. *Proc. Conf. Computer Methods in Mechanics (CMM 2005)*, Czestochowa, Poland, June 21–24 **2005**.
- [68] J. KOZICKI, J. TEJCHMAN, Simulation of the crack propagation in concrete with a discrete lattice model. *Proc. Conf. Analytical Models and New Concepts in Concrete and Masonry Structures (AMCM 2005)*, Gliwice, Poland, June 12–14 **2005**.
- [69] J. KOZICKI, J. TEJCHMAN, Study of Fracture Process in Concrete using a Discrete Lattice Model. *CURE Workshop, Simulations in Urban Engineering*, Gdańsk, September 20–22 **2004**.
- [70] J. KOZICKI, J. TEJCHMAN, Application of an Improved Cellular Automaton for Granular Flow. *CURE Workshop, Simulations in Urban Engineering*, Gdańsk, September 20–22 **2004**.
- [71] J. KOZICKI, J. TEJCHMAN, Discrete methods to describe the behaviour of quasi-brittle and granular materials. *Proc. Conf. Computer Methods in Mechanics (CMM 2003)*, pages 195–197, Gliwice 6 July **2003**.
- [72] J. KOZICKI, J. TEJCHMAN, Cellular automata model to describe granular flow in silos. *PTSK Symulacja w Badaniach i Rozwoju*, pages 214–219, 30 August – 1 September **2003**.
- [73] J. KOZICKI, J. TEJCHMAN, Discrete methods to describe the behaviour of quasi-brittle and granular materials. *16th Engineering Mechanics Conference, University of Washington, Seattle, CD-ROM*, July 16–18 **2003**.
- [74] J. KOZICKI, J. TEJCHMAN, Lattice method to describe the behaviour of quasi-brittle materials. *CURE Workshop, Effective use of building materials*, pages 131–134, Sopot, October 8-9 **2003**.

### **Conference materials in polish language**

- [75] J. KOZICKI, J. KOZICKA, Stacja na Marsie. *VIII Sympozjum Polskiego Towarzystwa Transplantacyjnego*, Opera Nova Bydgoszcz, Poland, 11-13 September **2008**.
- [76] J. KOZICKI, J. TEJCHMAN, Modelowanie przepływu silosowego przy zastosowaniu nowego modelu automatu komorkowego. *XIII Konferencja Naukowo-Techniczna, Zelbetowe i sprężone zbiorniki na materiały sypkie i ciecze*, CD-ROM, Wrocław, 26–29 September **2007**.
- [77] J. KOZICKI, M. NIEDOSTATKIEWICZ, Zastosowanie automatu komorkowego do opisu przepływu materiałów sypkich w silosach. *XII Konferencja Naukowo-Techniczna, Zelbetowe i sprężone zbiorniki na materiały sypkie i ciecze*, pages 115–122, Krakow, 19–21 November **2003**.

[78] J. KOZICKI, J. TEJCHMAN, Zastosowanie automatów komorkowych do opisu przepływów materiałów sypkich w silosach. *Materialy XXXVII Zjazdu Fizyków Polskich*, pages 1116–1120, Gdansk, 15–18 September **2003**.

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