

Vaclav Koci

List of Publications by Year in descending order

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Version: 2024-02-01

108
papers

715
citations

567281

15
h-index

610901

24
g-index

108
all docs

108
docs citations

108
times ranked

477
citing authors

#	ARTICLE	IF	CITATIONS
1	Thermal and hygric properties of biomaterials suitable for interior thermal insulation systems in historical and traditional buildings. <i>Building and Environment</i> , 2019, 154, 81-88.	6.9	54
2	Application of waste ceramic dust as a ready-to-use replacement of cement in lime-cement plasters: an environmental-friendly and energy-efficient solution. <i>Clean Technologies and Environmental Policy</i> , 2016, 18, 1725-1733.	4.1	51
3	Exterior thermal insulation systems for AAC building envelopes: Computational analysis aimed at increasing service life. <i>Energy and Buildings</i> , 2012, 47, 84-90.	6.7	43
4	Effective thermal conductivity of hollow bricks with cavities filled by air and expanded polystyrene. <i>Journal of Building Physics</i> , 2014, 37, 436-448.	2.4	42
5	Parallel modeling of hygrothermal performance of external wall made of highly perforated bricks. <i>Advances in Engineering Software</i> , 2017, 113, 47-53.	3.8	37
6	Salt Damage and Rising Damp Treatment in Building Structures. <i>Advances in Materials Science and Engineering</i> , 2016, 2016, 1-13.	1.8	36
7	Effect of applied weather data sets in simulation of building energy demands: Comparison of design years with recent weather data. <i>Renewable and Sustainable Energy Reviews</i> , 2019, 100, 22-32.	16.4	33
8	Computer aided design of interior thermal insulation system suitable for autoclaved aerated concrete structures. <i>Applied Thermal Engineering</i> , 2013, 58, 165-172.	6.0	29
9	Thermal and hygric assessment of an inside-insulated brick wall: 2D critical experiment and computational analysis. <i>Journal of Building Physics</i> , 2018, 41, 497-520.	2.4	26
10	Service Life Assessment of Historical Building Envelopes Constructed Using Different Types of Sandstone: A Computational Analysis Based on Experimental Input Data. <i>Scientific World Journal</i> , The, 2014, 2014, 1-12.	2.1	25
11	Preparation of self-heating alkali-activated materials using industrial waste products. <i>Journal of Cleaner Production</i> , 2020, 260, 121116.	9.3	25
12	Directly foamed geopolymers: A review of recent studies. <i>Cement and Concrete Composites</i> , 2022, 130, 104530.	10.7	25
13	Computational analysis of thermal performance of a passive family house built of hollow clay bricks. <i>Energy and Buildings</i> , 2014, 76, 211-218.	6.7	19
14	Time Domain Reflectometry flat sensor for non-invasive monitoring of moisture changes in building materials. <i>Measurement: Journal of the International Measurement Confederation</i> , 2020, 165, 108091.	5.0	17
15	Determination of the equivalent thermal conductivity of complex material systems with large-scale heterogeneities. <i>International Journal of Thermal Sciences</i> , 2014, 86, 365-373.	4.9	16
16	Computational analysis of hygrothermal performance of renovation renders. , 2010, , .		16
17	Effect of Moisture Content on Thermal Properties of Porous Building Materials. <i>International Journal of Thermophysics</i> , 2017, 38, 1.	2.1	13
18	Interior thermal insulation systems based on wood fiberboards: experimental analysis and computational assessment of hygrothermal and energy performance in the Central European climate. <i>Energy and Buildings</i> , 2020, 222, 110093.	6.7	13

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19	Multi-parameter optimization of lime composite design using a modified downhill simplex method. Composites Part B: Engineering, 2016, 93, 184-189.	12.0	12
20	Heat and Moisture Transport and Storage Parameters of Bricks Affected by the Environment. International Journal of Thermophysics, 2018, 39, 1.	2.1	12
21	Computational prediction of hygrothermal conditions in innovated AAC-based building envelopes. WIT Transactions on Engineering Sciences, 2010, , .	0.0	10
22	Determination of Radiative Heat Transfer Coefficient at High Temperatures Using a Combined Experimental-Computational Technique. Measurement Science Review, 2015, 15, 85-91.	1.0	8
23	Assessment of fast heat evolving processes using inverse analysis of calorimetric data. International Journal of Heat and Mass Transfer, 2017, 115, 831-838.	4.8	8
24	A Method for Rapid Evaluation of Thermal Performance of Wall Assemblies Based on Geographical Location. Energies, 2019, 12, 1353.	3.1	8
25	Heat transport and storage processes in differential scanning calorimeter: Computational analysis and model validation. International Journal of Heat and Mass Transfer, 2019, 136, 355-364.	4.8	8
26	Determination of moisture-dependent moisture diffusivity using smoothed experimental data. , 2013, , .		7
27	Correction of Errors in DSC Measurements Using Detailed Modeling of Thermal Phenomena in Calorimeter-Sample System. IEEE Transactions on Instrumentation and Measurement, 2020, 69, 8178-8186.	4.7	7
28	Contribution of waste products in single-layer ceramic building envelopes to overall energy savings. Energy, 2016, 111, 947-955.	8.8	6
29	Influence of weather-affected material characteristics on appearance of freeze/thaw cycles in building envelopes. AIP Conference Proceedings, 2017, , .	0.4	6
30	Experimental Determination of Frost Resistance of Autoclaved Aerated Concrete at Different Levels of Moisture Saturation. International Journal of Thermophysics, 2018, 39, 1.	2.1	6
31	Experimental and Computational Study of Thermal Processes in Red Clays Exposed to High Temperatures. Energies, 2020, 13, 2211.	3.1	6
32	Improving the Energy Performance of Public Buildings Equipped with Individual Gas Boilers Due to Thermal Retrofitting. Energies, 2021, 14, 1565.	3.1	6
33	Influence of material characteristics of concrete and thermal insulation on the service life of exterior renders. WIT Transactions on Modelling and Simulation, 2009, , .	0.0	6
34	Measurement of the contribution of radiation to the apparent thermal conductivity of fiber reinforced cement composites exposed to elevated temperatures. International Journal of Thermal Sciences, 2016, 100, 298-304.	4.9	5
35	Exploiting advantages of empirical and optimization approaches to design alkali activated materials in a more efficient way. Construction and Building Materials, 2021, 292, 123460.	7.2	5
36	Computational compensation of systematic errors accompanying non-equilibrium thermocouple measurements. International Journal of Thermal Sciences, 2021, 168, 107049.	4.9	5

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37	Effect of thermal insulation on hygric and thermal conditions in the envelopes of renovated historical buildings. , 2012, , .		5
38	Utilization of Crushed Pavement Blocks in Concrete: Assessment of Functional Properties and Environmental Impacts. Materials, 2021, 14, 7361.	2.9	5
39	A Method for Optimizing Lightweight-Gypsum Design Based on Sequential Measurements of Physical Parameters. Measurement Science Review, 2016, 16, 160-166.	1.0	4
40	Computational analysis of heat transport and storage processes in large-volume isothermal heat flow calorimeter. Applied Thermal Engineering, 2017, 121, 547-553.	6.0	4
41	Physical and mathematical models of hygrothermal processes in historical building envelopes. AIP Conference Proceedings, 2017, , .	0.4	4
42	Identification of biofilm composition covering lime-based materials. MATEC Web of Conferences, 2019, 282, 02067.	0.2	4
43	Functional Properties of SAP-Based Humidity Control Plasters. Polymers, 2021, 13, 2279.	4.5	4
44	Effect of Zeolite Admixture on Freeze/Thaw Resistance of Concrete Exposed to the Dynamic Climatic Conditions. Advanced Materials Research, 0, 982, 27-31.	0.3	3
45	Software for service life assessment of historical buildings: Implementation of coupled heat, moisture and salt transport model. AIP Conference Proceedings, 2015, , .	0.4	3
46	Effect of hygric and thermal properties of connecting layers on the performance of interior thermal insulation systems. AIP Conference Proceedings, 2017, , .	0.4	3
47	Traditional fired-clay bricks versus large and highly perforated fired-clay bricks masonry. , 2015, , 63-81.		2
48	Effect of water-ice phase change on thermal performance of building materials. AIP Conference Proceedings, 2016, , .	0.4	2
49	Mechanical, hydic and thermal properties of fine-grained high performance concrete. , 2017, , .		2
50	Growth effectivity of molds in contact with methylxanthines. MATEC Web of Conferences, 2019, 282, 02058.	0.2	2
51	Computational Prediction of Susceptibility to Biofilms Growth: Two-Dimensional Analysis of Critical Construction Details. Energies, 2020, 13, 293.	3.1	2
52	Computational and experimental characterization of building envelopes based on autoclaved aerated concrete. WIT Transactions on Engineering Sciences, 2011, , .	0.0	2
53	Thermal inertia and evaluation of reaction kinetics: A critical review. Measurement: Journal of the International Measurement Confederation, 2022, 198, 111354.	5.0	2
54	Computational analysis of a modified guarded hot plate experiment. , 2012, , .		1

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55	Effect of heat and moisture transport and storage properties of building stones on the hygrothermal performance of historical building envelopes. AIP Conference Proceedings, 2016, , .	0.4	1
56	Computational modelling of thermal processes in a calorimetric experiment. AIP Conference Proceedings, 2018, , .	0.4	1
57	Efficient Techniques for Solution of Complex Computational Tasks in Building Physics. Advances in Civil Engineering, 2019, 2019, 1-11.	0.7	1
58	Possibility to use surface TDR sensors to estimate water absorption coefficient of porous materials. AIP Conference Proceedings, 2020, , .	0.4	1
59	Influence of built-in thermocouples on temperature field in cement composites exposed to high temperatures. AIP Conference Proceedings, 2020, , .	0.4	1
60	Effect of moisture dependent thermal and hygric parameters on the moisture and temperature fields in multi-layered systems of building materials. WIT Transactions on Modelling and Simulation, 2013, , .	0.0	1
61	Application of a combined computational-experimental approach for the service life estimate of exterior plasters of historical buildings. , 2009, , .		1
62	Influence of characteristic types of thermal insulation on energy savings of AAC-based building envelope: a comparison. , 2012, , .		1
63	Computational Analysis of the Energy Efficiency of Stone Walls: Current Situation and Possible Improvements. International Journal of Sustainable Development and Planning, 2017, 12, 264-272.	0.7	1
64	Characterization of brick clays suitable for advanced ceramic building elements. AIP Conference Proceedings, 2022, , .	0.4	1
65	Computational simulation of salt transport and crystallization in surface layers of building envelopes. , 2012, , .		0
66	Computational model of coupled heat, moisture and salt transport in multi-layered building structures: Implementation of the deterministic physical model and example of application. , 2013, , .		0
67	Deterministic physical and mathematical models of coupled heat, moisture and salt transport in multi-layered systems of building materials. , 2013, , .		0
68	Comparison of computational methods for estimation of energy balance of building envelopes. , 2013, , .		0
69	Uncertainty Analysis of Computational-Experimental Approach for Determination of Equivalent Thermal Conductivity of Highly Perforated Bricks. Advanced Materials Research, 0, 1126, 105-110.	0.3	0
70	Influence of the cavity geometry on the heat transfer conditions inside highly perforated bricks. AIP Conference Proceedings, 2017, , .	0.4	0
71	Utilization of computational modelling for determination of hydration kinetics of heterogeneous materials. AIP Conference Proceedings, 2017, , .	0.4	0
72	Hygrothermal analysis of surface layers of historical masonry. AIP Conference Proceedings, 2017, , .	0.4	0

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73	Improvement of properties of aluminosilicate pastes based on optimization of curing parameters. AIP Conference Proceedings, 2017, , .	0.4	0
74	Improvement of mechanical properties of fiber reinforced mortar using a linear optimization method. AIP Conference Proceedings, 2017, , .	0.4	0
75	Thawing of ice in porous space of building materials: Experimental monitoring and computational modelling. AIP Conference Proceedings, 2017, , .	0.4	0
76	Cumulative damage assessment of concrete exposed to environmental effects. AIP Conference Proceedings, 2018, , .	0.4	0
77	Assessment of local environmental loads in terms of energy demands of selected building enclosures in the Czech Republic. AIP Conference Proceedings, 2018, , .	0.4	0
78	Physical and mathematical models of sound attenuation in porous materials. AIP Conference Proceedings, 2018, , .	0.4	0
79	Uncertainty in moisture transport modelling and its effect on ice formation in porous building materials. AIP Conference Proceedings, 2018, , .	0.4	0
80	Computational analysis of thermal processes at early-age hydration of lime-based binders. AIP Conference Proceedings, 2018, , .	0.4	0
81	Hygrothermal model for description of ice-forming process in porous building materials: Sensitivity analysis of input material parameters. AIP Conference Proceedings, 2018, , .	0.4	0
82	Effect of moisture variations on damage cumulation in surface layers of building structures. AIP Conference Proceedings, 2018, , .	0.4	0
83	Material homogenization technique based on overall hygrothermal performance. AIP Conference Proceedings, 2019, , .	0.4	0
84	Hygrothermal modelling of wall assemblies: Quantification of convenient conditions for biofilms growth. AIP Conference Proceedings, 2019, , .	0.4	0
85	Determination of effective specific heat capacity of interior plaster containing phase change materials. MATEC Web of Conferences, 2019, 282, 02052.	0.2	0
86	Computer-aided assessment of critical details of interior thermal insulation systems for historical masonry. AIP Conference Proceedings, 2019, , .	0.4	0
87	Verification of computational model for the assessment of interior thermal insulation systems using a laboratory critical experiment. AIP Conference Proceedings, 2019, , .	0.4	0
88	Exterior thermal insulation systems and their influence on surface hygrothermal conditions. AIP Conference Proceedings, 2020, , .	0.4	0
89	Classification of mold-infested buildings using gas sensors readouts and support vector machine. AIP Conference Proceedings, 2020, , .	0.4	0
90	Physical and mathematical models of heat and moisture transport in a tunnel dryer. AIP Conference Proceedings, 2021, , .	0.4	0

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91	Interior thermal insulation materials on natural basis: Evaluation of heat losses reduction. AIP Conference Proceedings, 2021, , .	0.4	0
92	Predictive service life analysis of characteristic applications of zeolite concrete in building structures. , 2014, , .		0
93	The computational simulation of coupled heat and moisture transport as a tool for predicting the degradation of sedimentary porous rocks in historical masonry. WIT Transactions on Engineering Sciences, 2014, , .	0.0	0
94	MICROSTRUCTURE, TEXTURE, AND MECHANICAL PROPERTIES OF GEOPOLYMERS PREPARED USING INDUSTRIAL WASTE. Proceedings of International Structural Engineering and Construction, 2017, 4, .	0.1	0
95	COMPUTATIONAL APPROACH FOR ESTIMATING HYGRIC PROPERTIES OF HETEROGENEOUS MATERIALS IN LONG-TERM ASSESSMENT OF MOISTURE-INDUCED DAMAGE. Proceedings of International Structural Engineering and Construction, 2017, 4, .	0.1	0
96	EFFECT OF LOAD BEARING MATERIALS ON SUSCEPTIBILITY TO BIOFILMS GROWTH. Proceedings of International Structural Engineering and Construction, 2020, 7, .	0.1	0
97	COMPUTATIONAL ANALYSIS OF HEAT AND MASS TRANSPORT IN CHARACTERISTIC DETAIL OF INTERIOR THERMAL INSULATION SYSTEM. Proceedings of International Structural Engineering and Construction, 2020, 7, .	0.1	0
98	Assessment of environmental impact of coarse aggregates substitution by crushed pavements in concrete mixtures. MATEC Web of Conferences, 2020, 322, 01036.	0.2	0
99	Impact of precursor granulometry on mechanical properties of geopolymers activated by potassium silicate. AIP Conference Proceedings, 2021, , .	0.4	0
100	Biodegradation of methylxanthines by Coniophora puteana. AIP Conference Proceedings, 2021, , .	0.4	0
101	Influence of biofilms on thermal performance of selected plasters. AIP Conference Proceedings, 2021, , .	0.4	0
102	Sensitivity analysis of mathematical model suitable for description of biofilms growth. AIP Conference Proceedings, 2020, , .	0.4	0
103	The hygrothermal performance of concrete with coarse aggregates made of recycled concrete pavements. MATEC Web of Conferences, 2020, 322, 01006.	0.2	0
104	Basic Physical, Mechanical, Thermal and Hygric Properties of Concrete with Coarse Aggregates Fabricated from Recycled Concrete Pavements. MATEC Web of Conferences, 2020, 322, 01007.	0.2	0
105	Density-based clustering of E-nose output from mold-contaminated buildings. AIP Conference Proceedings, 2021, , .	0.4	0
106	Energy balance of multi-layered historical buildings with interior thermal insulation: Construction of an expert online system. AIP Conference Proceedings, 2022, , .	0.4	0
107	Models of sound attenuation in homogeneous materials. AIP Conference Proceedings, 2022, , .	0.4	0
108	Experimental determination of biofilms growth rate on selected plasters. AIP Conference Proceedings, 2022, , .	0.4	0