FrÃ©dÃ©ric Kuznik

List of Publications by Year
in descending order

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97 papers	5,023 citations	126901 33 h-index	91872 69 g-index
99 all docs	99 docs citations	99 times ranked	3830 citing authors

#	Article	IF	Citations
1	A review on phase change materials integrated in building walls. Renewable and Sustainable Energy Reviews, 2011, 15, 379-391.	16.4	801
2	Experimental assessment of a phase change material for wall building use. Applied Energy, 2009, 86, 2038-2046.	10.1	347
3	Phase-change materials to improve solar panel's performance. Energy and Buildings, 2013, 62, 59-67.	6.7	290
4	Energetic efficiency of room wall containing PCM wallboard: A full-scale experimental investigation. Energy and Buildings, 2008, 40, 148-156.	6.7	260
5	Optimization of a phase change material wallboard for building use. Applied Thermal Engineering, 2008, 28, 1291-1298.	6.0	246
6	Development and characterisation of a new MgSO4â˜zeolite composite for long-term thermal energy storage. Solar Energy Materials and Solar Cells, 2011, 95, 1831-1837.	6.2	241
7	Evaluation of thermal comfort using combined CFD and experimentation study in a test room equipped with a cooling ceiling. Building and Environment, 2009, 44, 1740-1750.	6.9	175
8	In-situ study of thermal comfort enhancement in a renovated building equipped with phase change material wallboard. Renewable Energy, 2011, 36, 1458-1462.	8.9	166
9	LBM based flow simulation using GPU computing processor. Computers and Mathematics With Applications, 2010, 59, 2380-2392.	2.7	164
10	Modeling the heating and cooling energy demand of urban buildings at city scale. Renewable and Sustainable Energy Reviews, 2018, 81, 2318-2327.	16.4	136
11	Development and validation of a new TRNSYS type for the simulation of external building walls containing PCM. Energy and Buildings, 2010, 42, 1004-1009.	6.7	131
12	Optimizing energy and environmental performance of passive Trombe wall. Energy and Buildings, 2014, 70, 279-286.	6.7	115
13	A new approach to the lattice Boltzmann method for graphics processing units. Computers and Mathematics With Applications, 2011, 61, 3628-3638.	2.7	111
14	Design and characterisation of a high powered energy dense zeolite thermal energy storage system for buildings. Applied Energy, 2015, 159, 80-86.	10.1	108
15	Multi-GPU implementation of the lattice Boltzmann method. Computers and Mathematics With Applications, 2013, 65, 252-261.	2.7	97
16	Storage of thermal solar energy. Comptes Rendus Physique, 2017, 18, 401-414.	0.9	84
17	Thermal decomposition kinetic of salt hydrates for heat storage systems. Applied Energy, 2015, 154, 447-458.	10.1	74
18	Modeling phase change materials behavior in building applications: Comments on material characterization and model validation. Renewable Energy, 2014, 61, 132-135.	8.9	69

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19	Experimental and numerical study of a full scale ventilated enclosure: Comparison of four two equations closure turbulence models. Building and Environment, 2007, 42, 1043-1053.	6.9	68
20	Numerical modeling and experimental validation of a PCM to air heat exchanger. Energy and Buildings, 2013, 64, 415-422.	6.7	55
21	Simulation of the thermal and energy behaviour of a composite material containing encapsulated-PCM: Influence of the thermodynamical modelling. Applied Energy, 2015, 140, 269-274.	10.1	53
22	Experimental investigation on thermal behavior and reduction of energy consumption in a real scale building by using phase change materials on its envelope. Sustainable Cities and Society, 2018, 41, 35-43.	10.4	53
23	Scalable lattice Boltzmann solvers for CUDA GPU clusters. Parallel Computing, 2013, 39, 259-270.	2.1	52
24	A review on recent developments in physisorption thermal energy storage for building applications. Renewable and Sustainable Energy Reviews, 2018, 94, 576-586.	16.4	50
25	Numerical modelling of geothermal vertical heat exchangers for the short time analysis using the state model size reduction technique. Applied Thermal Engineering, 2010, 30, 706-714.	6.0	49
26	Numerical study of the influence of the convective heat transfer on the dynamical behaviour of a phase change material wall. Applied Thermal Engineering, 2011, 31, 3117-3124.	6.0	46
27	Performance analysis of a thermochemical based heat storage as an addition to cogeneration systems. Energy Conversion and Management, 2015, 106, 1327-1344.	9.2	46
28	Thermal conductivity measurement of thermochemical storage materials. Applied Thermal Engineering, 2015, 89, 916-926.	6.0	46
29	Interpretation of calorimetry experiments to characterise phase change materials. International Journal of Thermal Sciences, 2014, 78, 48-55.	4.9	42
30	Numerical modelling of combined heat transfers in a double skin faÃ§ade â€“ Full-scale laboratory experiment validation. Applied Thermal Engineering, 2011, 31, 3043-3054.	6.0	41
31	Experimental study of a mechanically ventilated double-skin faÃ§ade with venetian sun-shading device: A full-scale investigation in controlled environment. Solar Energy, 2010, 84, 183-195.	6.1	39
32	Thermodynamic study of MgSO4 â€“ H2O system dehydration at low pressure in view of heat storage. Thermochimica Acta, 2017, 656, 135-143.	2.7	37
33	Hybrid LBM-MRT model coupled with finite difference method for double-diffusive mixed convection in rectangular enclosure with insulated moving lid. Physica A: Statistical Mechanics and Its Applications, 2016, 444, 311-326.	2.6	36
34	A reality check on long-term thermochemical heat storage for household applications. Renewable and Sustainable Energy Reviews, 2021, 139, 110683.	16.4	36
35	Phase change material wall optimization for heating using metamodeling. Energy and Buildings, 2015, 106, 216-224.	6.7	34
36	Melting with convection and radiation in a participating phase change material. Applied Energy, 2013, 109, 454-461.	10.1	33

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37	Design of a PCM to air heat exchanger using dimensionless analysis: Application to electricity peak shaving in buildings. Energy and Buildings, 2015, 106, 65-73.	6.7	31
38	Hybrid lattice Boltzmann finite difference simulation of mixed convection flows in a lid-driven square cavity. Physics Letters, Section A: General, Atomic and Solid State Physics, 2014, 378, 2429-2435.	2.1	27
39	Towards aeraulic simulations at urban scale using the lattice Boltzmann method. Environmental Fluid Mechanics, 2015, 15, 753-770.	1.6	27
40	Derivation of generic typologies for microscale urban airflow studies. Sustainable Cities and Society, 2018, 36, 71-80.	10.4	25
41	Fast and accurate district heating and cooling energy demand and load calculations using reduced-order modelling. Applied Energy, 2019, 238, 963-971.	10.1	25
42	Chemisorption heat storage in buildings: State-of-the-art and outlook. Energy and Buildings, 2015, 106, 183-191.	6.7	24
43	The TheLMA project: A thermal lattice Boltzmann solver for the GPU. Computers and Fluids, 2012, 54, 118-126.	2.5	22
44	Thermal synthesis of a thermochemical heat storage with heat exchanger optimization. Applied Thermal Engineering, 2016, 101, 669-677.	6.0	22
45	Numerical modelling and investigations on a full-scale zeolite 13X open heat storage for buildings. Renewable Energy, 2019, 132, 761-772.	8.9	22
46	New kinetic model of the dehydration reaction of magnesium sulfate hexahydrate: Application for heat storage. Thermochimica Acta, 2020, 687, 178569.	2.7	21
47	Development and validation of a new LBM-MRT hybrid model with enthalpy formulation for melting with natural convection. Physics Letters, Section A: General, Atomic and Solid State Physics, 2014, 378, 374-381.	2.1	20
48	Multi-GPU implementation of a hybrid thermal lattice Boltzmann solver using the TheLMA framework. Computers and Fluids, 2013, 80, 269-275.	2.5	18
49	Lattice Boltzmann Simulation of Mixed Convection Heat Transfer in a Driven Cavity with Non-uniform Heating of the Bottom Wall. Communications in Theoretical Physics, 2015, 63, 91-100.	2.5	18
50	Experimental and numerical study of a mechanically ventilated enclosure with thermal effects. Energy and Buildings, 2006, 38, 931-938.	6.7	16
51	IEA SHC Task 42 / ECES Annex 29 â€“ Working Group B: Applications of Compact Thermal Energy Storage. Energy Procedia, 2016, 91, 231-245.	1.8	16
52	The TheLMA project: Multi-GPU implementation of the lattice Boltzmann method. International Journal of High Performance Computing Applications, 2011, 25, 295-303.	3.7	14
53	Specification requirements for inter-seasonal heat storage systems in a low energy residential house. Energy Conversion and Management, 2014, 77, 628-636.	9.2	14
54	High-performance implementations and large-scale validation of the link-wise artificial compressibility method. Journal of Computational Physics, 2014, 275, 143-153.	3.8	13

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55	Magnetohydrodynamic blood flow study in stenotic coronary artery using lattice Boltzmann method. Computer Methods and Programs in Biomedicine, 2022, 221, 106850.	4.7	13
56	Thermal link-wise artificial compressibility method: GPU implementation and validation of a double-population model. Computers and Mathematics With Applications, 2016, 72, 375-385.	2.7	12
57	Modelling of Heat Exchangers Based on Thermochemical Material for Solar Heat Storage Systems. Energy Procedia, 2014, 61, 2809-2813.	1.8	11
58	Thermodynamic Efficiency of Water Vapor/Solid Chemical Sorption Heat Storage for Buildings: Theoretical Limits and Integration Considerations. Applied Sciences (Switzerland), 2020, 10, 489.	2.5	11
59	Sensitivity analysis of a zeolite energy storage model: Impact of parameters on heat storage density and discharge power density. Renewable Energy, 2020, 149, 468-478.	8.9	10
60	A Review on Chemisorption Heat Storage in Low-energy Buildings. Energy Procedia, 2014, 57, 2333-2341.	1.8	9
61	Experimental investigation of natural convection near a wall containing phase change material. International Journal of Thermal Sciences, 2016, 104, 281-291.	4.9	9
62	A full-scale experimental study concerning the moisture condensation on building glazing surface. Building and Environment, 2019, 156, 215-224.	6.9	9
63	Numerical Study of Thermal Diffusion and Diffusion Thermo Effects in a Differentially Heated and Salted Driven Cavity Using MRT-Lattice Boltzmann Finite Difference Model. International Journal of Applied Mechanics, 2021, 13, 2150049.	2.2	9
64	Evaluation of Thermal Energy Storage Potential in Low-Energy Buildings in France. , 2011, , .		9
65	Efficient GPU implementation of the linearly interpolated bounce-back boundary condition. Computers and Mathematics With Applications, 2013, 65, 936-944.	2.7	8
66	Decomposition and coupling of soil domain for modeling vertical ground heat exchangers using the state model size reduction technique. Applied Thermal Engineering, 2014, 69, 155-164.	6.0	8
67	Numerical Simulation of Melting with Natural Convection Based on Lattice Boltzmann Method and Performed with CUDA Enabled GPU. Communications in Computational Physics, 2015, 17, 1201-1224.	1.7	8
68	On the impact of local microclimate on building performance simulation. Part II: Effect of external conditions on the dynamic thermal behavior of buildings. Building Simulation, 2019, 12, 747-757.	5.6	8
69	A second order turbulence model for the prediction of air movement and heat transfer in a ventilated room. Building Simulation, 2008, 1, 72-82.	5.6	6
70	Sensitivity Analysis of the Energy Density in a Thermo Chemical Heat Storage Device. Energy Procedia, 2014, 48, 405-412.	1.8	6
71	Numerical analysis of truncation error, consistency, and axis boundary condition for axis-symmetric flow simulations via the radius weighted lattice Boltzmann model. Computers and Fluids, 2015, 116, 46-59.	2.5	6
72	Adaptation of building envelope models for energy simulation at district scale. Energy Procedia, 2017, 122, 307-312.	1.8	6

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73	On the impact of local microclimate on building performance simulation. Part I: Prediction of building external conditions. Building Simulation, 2019, 12, 735-746.	5.6	6
74	Studying the evolution of both thermal and kinetic boundary layers in the vicinity of a vertical conductive gypsum plate under dynamic time-depending conditions at the building scale. Energy and Buildings, 2015, 86, 898-908.	6.7	5
75	Detailed airflow dynamics and temperature data of axisymmetric and anisothermal jets developing in a room. Data in Brief, 2020, 29, 105382.	1.0	5
76	Thermal energy storage for space heating and domestic hot water in individual residential buildings. , 2021, , 567-594.		5
77	Experimental Study of Turbulent Structures in a Non Isothermal Horizontal Jet Issuing from a Round Nozzle Distanced from a Wall. International Journal of Ventilation, 2011, 10, 277-290.	0.4	4
78	Quantification of the natural convection perturbations on differential scanning calorimetry measurements of PCMs. Thermochimica Acta, 2017, 655, 145-154.	2.7	4
79	Hybrid thermal link-wise artificial compressibility method. Physics Letters, Section A: General, Atomic and Solid State Physics, 2015, 379, 2224-2229.	2.1	3
80	Global Memory Access Modelling for Efficient Implementation of the Lattice Boltzmann Method on Graphics Processing Units. Lecture Notes in Computer Science, 2011, , 151-161.	1.3	3
81	STUDY OF CARBONATION DURABILITY OF SEVERAL ETTRINGITE-ENRICHED PASTES. WIT Transactions on Engineering Sciences, 2019, , .	0.0	3
82	Open Sorption Systems. , 2022, , 526-541.		3
83	Thermodynamic equilibrium and kinetic study of lanthanum chloride heptahydrate dehydration for thermal energy storage. Journal of Energy Storage, 2022, 48, 103562.	8.1	3
84	An adapted steady RANS RSM wall-function for building external convection. Building and Environment, 2015, 94, 654-664.	6.9	2
85	Performance Evaluation of an OpenCL Implementation of the Lattice Boltzmann Method on the Intel Xeon Phi. Parallel Processing Letters, 2015, 25, 1541001.	0.6	2
86	Artificial Neural Network Simulation of Energetic Performance for Sorption Thermal Energy Storage Reactors. Energies, 2021, 14, 3294.	3.1	2
87	Calculation of heating and cooling energy loads at the district scale: Development of MoDEM, a modular and technologically explicit platform. Sustainable Cities and Society, 2022, 83, 103901.	10.4	2
88	Inter-seasonal Heat Storage in Low Energy House: From Requirements to TESS Specifications. Energy Procedia, 2014, 57, 2399-2407.	1.8	1
89	Integrating phase change materials in thermal energy storage systems for buildings. , 2021, , 381-422.		1
90	Energy Storage by Adsorption Technology for Building. , 2018, , 1025-1051.		1

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91	Towards High-Performance Thermal Flow Solvers based on the Link-Wise Artificial Compressibility Method. , 2014, , .		1
92	Energy Storage by Adsorption Technology for Building. , 2018, , 1-27.		1
93	Use of a RSM Turbulence Model for the Prediction of Velocity and Temperature Fields in a Mechanically Ventilated Room. International Journal of Ventilation, 2007, 6, 157-166.	0.4	0
94	Software Calibration of Wirelessly Networked Sensors. , 2009, , .		0
95	Modeling Approach of Thermal Decomposition of Salt-Hydrates for Heat Storage Systems. , 2013, , .		0
96	Modeling Phase Change Materials Behaviour in Building Applications: Selected Comments. , 2011, , .		0
97	Energy Storage by Adsorption Technology for Building. , 2018, , 1-27.		0