

Michael Wetter

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

61
papers

2,033
citations

23
h-index

44
g-index

69
ext. papers

2,553
ext. citations

5.9
avg, IF

5.49
L-index

#	Paper	IF	Citations
61	Estimating ASHRAE Guideline 36 energy savings for multi-zone variable air volume systems using Spawn of EnergyPlus. <i>Journal of Building Performance Simulation</i> , 2022 , 15, 215-236	2.8	3
60	Modelica-based modeling and simulation of district cooling systems: A case study. <i>Applied Energy</i> , 2022 , 311, 118654	10.7	3
59	OpenBuildingControl: Digitizing the control delivery from building energy modeling to specification, implementation and formal verification. <i>Energy</i> , 2022 , 238, 121501	7.9	3
58	Field demonstration and implementation analysis of model predictive control in an office HVAC system. <i>Applied Energy</i> , 2022 , 318, 119104	10.7	3
57	A fast and accurate modeling approach for water and steam thermodynamics with practical applications in district heating system simulation. <i>Energy</i> , 2022 , 124227	7.9	0
56	Building optimization testing framework (BOPTTEST) for simulation-based benchmarking of control strategies in buildings. <i>Journal of Building Performance Simulation</i> , 2021 , 14, 586-610	2.8	6
55	Vocabulary for the fourth generation of district heating and cooling. <i>Smart Energy</i> , 2021 , 1, 100003		6
54	The reservoir network: A new network topology for district heating and cooling. <i>Energy</i> , 2020 , 199, 117418	7.9	33
53	Development and Verification of Control Sequences for Single-Zone Variable Air Volume System Based on ASHRAE Guideline 36 2020 ,		2
52	All you need to know about model predictive control for buildings. <i>Annual Reviews in Control</i> , 2020 , 50, 190-232	10.3	104
51	Equation-based object-oriented modeling and simulation for data center cooling: A case study. <i>Energy and Buildings</i> , 2019 , 186, 108-125	7	19
50	CyDER: An FMI-based co-simulation platform for distributed energy resources. <i>Journal of Building Performance Simulation</i> , 2019 , 12, 566-579	2.8	5
49	Equation-based object-oriented modeling and simulation of data center cooling systems. <i>Energy and Buildings</i> , 2019 , 198, 503-519	7	11
48	IBPSA Project 1: BIM/GIS and Modelica framework for building and community energy system design and operation: Ongoing developments, lessons learned and challenges. <i>IOP Conference Series: Earth and Environmental Science</i> , 2019 , 323, 012114	0.3	8
47	ModestPy: An Open-Source Python Tool for Parameter Estimation in Functional Mock-up Units 2019 ,		6
46	Practical factors of envelope model setup and their effects on the performance of model predictive control for building heating, ventilating, and air conditioning systems. <i>Applied Energy</i> , 2019 , 236, 410-425	10.7	40
45	Simplifications for hydronic system models in modelica. <i>Journal of Building Performance Simulation</i> , 2018 , 11, 639-654	2.8	5

44	A thermodynamic analysis of a novel bidirectional district heating and cooling network. <i>Energy</i> , 2018 , 144, 20-30	7.9	38
43	Fast and self-learning indoor airflow simulation based on in situ adaptive tabulation. <i>Journal of Building Performance Simulation</i> , 2018 , 11, 99-112	2.8	7
42	Bidirectional low temperature district energy systems with agent-based control: Performance comparison and operation optimization. <i>Applied Energy</i> , 2018 , 209, 502-515	10.7	77
41	CyDER - A Co-Simulation Platform for Grid Analysis and Planning for High Penetration of Distributed Energy Resources 2018 ,		3
40	Dynamic equation-based thermo-hydraulic pipe model for district heating and cooling systems. <i>Energy Conversion and Management</i> , 2017 , 151, 158-169	10.6	74
39	Energy saving potential of a two-pipe system for simultaneous heating and cooling of office buildings. <i>Energy and Buildings</i> , 2017 , 134, 234-247	7	20
38	Modelling of Heat Pumps with Calibrated Parameters Based on Manufacturer Data 2017 ,		4
37	Coupling indoor airflow, HVAC, control and building envelope heat transfer in the Modelica Buildings library. <i>Journal of Building Performance Simulation</i> , 2016 , 9, 366-381	2.8	30
36	Hardware-in-the-Loop co-simulation of distribution Grid for demand response 2016 ,		11
35	. <i>Proceedings of the IEEE</i> , 2016 , 104, 789-806	14.3	26
34	Building energy simulation in real time through an open standard interface. <i>Energy and Buildings</i> , 2016 , 117, 282-289	7	14
33	Equation-based languages – A new paradigm for building energy modeling, simulation and optimization. <i>Energy and Buildings</i> , 2016 , 117, 290-300	7	60
32	Requirements for hybrid cosimulation standards 2015 ,		27
31	CyPhySim 2015 ,		8
30	Modeling and simulating cyber-physical systems using CyPhySim 2015 ,		14
29	Simulation Speed Analysis and Improvements of Modelica Models for Building Energy Simulation 2015 ,		4
28	Design Choices for Thermofluid Flow Components and Systems that are Exported as Functional Mockup Units 2015 ,		2
27	Robust on-line fault detection diagnosis for HVAC components based on nonlinear state estimation techniques. <i>Applied Energy</i> , 2014 , 124, 156-166	10.7	88

26	Modelica Buildings library. <i>Journal of Building Performance Simulation</i> , 2014 , 7, 253-270	2.8	214
25	Functional mock-up unit for co-simulation import in EnergyPlus. <i>Journal of Building Performance Simulation</i> , 2014 , 7, 192-202	2.8	53
24	Novel simulation concepts for buildings and community energy systems based on the Functional Mock-up Interface specification 2014 ,		3
23	Acceleration of the matrix multiplication of Radiance three phase daylighting simulations with parallel computing on heterogeneous hardware of personal computer. <i>Journal of Building Performance Simulation</i> , 2014 , 7, 152-163	2.8	10
22	Tool coupling for the design and operation of building energy and control systems based on the Functional Mock-up Interface standard 2014 ,		5
21	An FMI-based Framework for State and Parameter Estimation 2014 ,		2
20	Determinate composition of FMUs for co-simulation 2013 ,		59
19	Intelligent Building Energy Information and Control Systems for Low-Energy Operations and Optimal Demand Response. <i>IEEE Design and Test of Computers</i> , 2012 , 29, 8-16		20
18	A framework for simulation-based real-time whole building performance assessment. <i>Building and Environment</i> , 2012 , 54, 100-108	6.5	79
17	Co-simulation of building energy and control systems with the Building Controls Virtual Test Bed. <i>Journal of Building Performance Simulation</i> , 2011 , 4, 185-203	2.8	239
16	Recent Developments of the Modelica "Buildings" Library for Building Energy and Control Systems 2011 ,		11
15	A comparison of global optimization algorithms with standard benchmark functions and real-world applications using EnergyPlus. <i>Journal of Building Performance Simulation</i> , 2010 , 3, 103-120	2.8	55
14	Co-simulation for performance prediction of integrated building and HVAC systems [An analysis of solution characteristics using a two-body system. <i>Simulation Modelling Practice and Theory</i> , 2010 , 18, 957-970	3.9	33
13	Co-simulation of innovative integrated HVAC systems in buildings. <i>Journal of Building Performance Simulation</i> , 2009 , 2, 209-230	2.8	56
12	Modelica-based modelling and simulation to support research and development in building energy and control systems. <i>Journal of Building Performance Simulation</i> , 2009 , 2, 143-161	2.8	102
11	Modelica Library for Building Heating, Ventilation and Air-Conditioning Systems 2009 ,		10
10	Comparing computer run time of building simulation programs. <i>Building Simulation</i> , 2008 , 1, 210-213	3.9	11
9	Precision Control for Generalized Pattern Search Algorithms with Adaptive Precision Function Evaluations. <i>SIAM Journal on Optimization</i> , 2006 , 16, 650-669	2	20

8	Building design optimization using a convergent pattern search algorithm with adaptive precision simulations. <i>Energy and Buildings</i> , 2005 , 37, 603-612	7	35
7	BuildOpt™ new building energy simulation program that is built on smooth models. <i>Building and Environment</i> , 2005 , 40, 1085-1092	6.5	14
6	A convergent optimization method using pattern search algorithms with adaptive precision simulation. <i>Building Services Engineering Research and Technology</i> , 2004 , 25, 327-338	2.3	24
5	A comparison of deterministic and probabilistic optimization algorithms for nonsmooth simulation-based optimization. <i>Building and Environment</i> , 2004 , 39, 989-999	6.5	191
4	Modeling of Heat Transfer in Rooms in the Modelica "Buildings" Library		7
3	Generalized pattern search algorithms with adaptive precision function evaluations		5
2	Prototyping The BOPTTEST Framework For Simulation-Based Testing Of Advanced Control Strategies In Buildings		2
1	BacNet and Analog/Digital Interfaces of the Building Controls Virtual Testbed		2