

Gongsheng Huang

List of Publications by Citations

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145
papers

3,904
citations

34
h-index

57
g-index

151
ext. papers

4,705
ext. citations

6.5
avg, IF

6.3
L-index

#	Paper	IF	Citations
145	Supervisory and Optimal Control of Building HVAC Systems: A Review. <i>HVAC and R Research</i> , 2008 , 14, 3-32		261
144	Simplified building model for transient thermal performance estimation using GA-based parameter identification. <i>International Journal of Thermal Sciences</i> , 2006 , 45, 419-432	4.1	194
143	Model-based optimal control of VAV air-conditioning system using genetic algorithm. <i>Building and Environment</i> , 2000 , 35, 471-487	6.5	178
142	Design optimization and optimal control of grid-connected and standalone nearly/net zero energy buildings. <i>Applied Energy</i> , 2015 , 155, 463-477	10.7	149
141	Parameter estimation of internal thermal mass of building dynamic models using genetic algorithm. <i>Energy Conversion and Management</i> , 2006 , 47, 1927-1941	10.6	142
140	Supervisory and optimal control of central chiller plants using simplified adaptive models and genetic algorithm. <i>Applied Energy</i> , 2011 , 88, 198-211	10.7	115
139	Renewable energy system optimization of low/zero energy buildings using single-objective and multi-objective optimization methods. <i>Energy and Buildings</i> , 2015 , 89, 61-75	7	113
138	An optimal control strategy for complex building central chilled water systems for practical and real-time applications. <i>Building and Environment</i> , 2009 , 44, 1188-1198	6.5	97
137	Dynamic simulation of a building central chilling system and evaluation of EMCS on-line control strategies. <i>Building and Environment</i> , 1998 , 33, 1-20	6.5	92
136	Thermal performance and service life of vacuum insulation panels with aerogel composite cores. <i>Energy and Buildings</i> , 2017 , 154, 606-617	7	77
135	Optimal simplified thermal models of building envelope based on frequency domain regression using genetic algorithm. <i>Energy and Buildings</i> , 2007 , 39, 525-536	7	72
134	A multi-criteria system design optimization for net zero energy buildings under uncertainties. <i>Energy and Buildings</i> , 2015 , 97, 196-204	7	68
133	HVAC system design under peak load prediction uncertainty using multiple-criterion decision making technique. <i>Energy and Buildings</i> , 2015 , 91, 26-36	7	67
132	A robust model predictive control strategy for improving the control performance of air-conditioning systems. <i>Energy Conversion and Management</i> , 2009 , 50, 2650-2658	10.6	61
131	Optimum insulation thicknesses and energy conservation of building thermal insulation materials in Chinese zone of humid subtropical climate. <i>Sustainable Cities and Society</i> , 2020 , 52, 101840	10.1	61
130	Modeling and coupling effect evaluation of thermal conductivity of ternary opacifier/fiber/aerogel composites for super-thermal insulation. <i>Materials and Design</i> , 2017 , 133, 224-236	8.1	55
129	Model predictive control of VAV zone thermal systems concerning bi-linearity and gain nonlinearity. <i>Control Engineering Practice</i> , 2011 , 19, 700-710	3.9	54

128	Transient heat flow calculation for multilayer constructions using a frequency-domain regression method. <i>Building and Environment</i> , 2003 , 38, 45-61	6.5	52
127	Uncertainty-based life-cycle analysis of near-zero energy buildings for performance improvements. <i>Applied Energy</i> , 2018 , 213, 486-498	10.7	48
126	Wireless sensor network based monitoring system for a large-scale indoor space: data process and supply air allocation optimization. <i>Energy and Buildings</i> , 2015 , 103, 365-374	7	46
125	Re-evaluation of building cooling load prediction models for use in humid subtropical area. <i>Energy and Buildings</i> , 2013 , 62, 442-449	7	45
124	Numerical and experimental study on the thermal performance of aerogel insulating panels for building energy efficiency. <i>Renewable Energy</i> , 2019 , 138, 445-457	8.1	43
123	A transient quasi-3D entire time scale line source model for the fluid and ground temperature prediction of vertical ground heat exchangers (GHEs). <i>Applied Energy</i> , 2016 , 170, 65-75	10.7	43
122	Supply-based feedback control strategy of air-conditioning systems for direct load control of buildings responding to urgent requests of smart grids. <i>Applied Energy</i> , 2017 , 201, 419-432	10.7	42
121	A CFD-based test method for control of indoor environment and space ventilation. <i>Building and Environment</i> , 2010 , 45, 1441-1447	6.5	42
120	A p(t)-linear average method to estimate the thermal parameters of the borehole heat exchangers for in situ thermal response test. <i>Applied Energy</i> , 2014 , 131, 211-221	10.7	41
119	Chiller sequencing control with enhanced robustness for energy efficient operation. <i>Energy and Buildings</i> , 2009 , 41, 1246-1255	7	41
118	Investigation on the properties of a new type of concrete blocks incorporated with PEG/SiO ₂ composite phase change material. <i>Building and Environment</i> , 2016 , 104, 172-177	6.5	41
117	Demand-based temperature control of large-scale rooms aided by wireless sensor network: Energy saving potential analysis. <i>Energy and Buildings</i> , 2014 , 68, 532-540	7	40
116	Optimal design of PCM thermal storage tank and its application for winter available open-air swimming pool. <i>Applied Energy</i> , 2018 , 209, 224-235	10.7	40
115	Energy efficient HVAC control for an IPS-enabled large space in commercial buildings through dynamic spatial occupancy distribution. <i>Applied Energy</i> , 2017 , 207, 305-323	10.7	39
114	A direct load control strategy of centralized air-conditioning systems for building fast demand response to urgent requests of smart grids. <i>Automation in Construction</i> , 2018 , 87, 74-83	9.6	35
113	Building-group-level performance evaluations of net zero energy buildings with non-collaborative controls. <i>Applied Energy</i> , 2018 , 212, 565-576	10.7	34
112	A demand limiting strategy for maximizing monthly cost savings of commercial buildings. <i>Energy and Buildings</i> , 2010 , 42, 2219-2230	7	34
111	Event-driven optimization of complex HVAC systems. <i>Energy and Buildings</i> , 2016 , 133, 79-87	7	34

110	Impacts of renewable energy system design inputs on the performance robustness of net zero energy buildings. <i>Energy</i> , 2015 , 93, 1595-1606	7.9	33
109	A novel and simple building load calculation model for building and system dynamic simulation. <i>Applied Thermal Engineering</i> , 2001 , 21, 683-702	5.8	33
108	Intelligent Buildings and Building Automation		33
107	Multi-zone outdoor air coordination through Wi-Fi probe-based occupancy sensing. <i>Energy and Buildings</i> , 2018 , 159, 495-507	7	32
106	A foamed cement blocks with paraffin/expanded graphite composite phase change solar thermal absorption material. <i>Solar Energy Materials and Solar Cells</i> , 2019 , 200, 110038	6.4	32
105	Stochastic chiller sequencing control. <i>Energy and Buildings</i> , 2014 , 84, 203-213	7	32
104	Coordinated optimal design of zero/low energy buildings and their energy systems based on multi-stage design optimization. <i>Energy</i> , 2019 , 189, 116202	7.9	30
103	Uncertainty analysis for chiller sequencing control. <i>Energy and Buildings</i> , 2014 , 85, 187-198	7	29
102	Robust MPC for temperature control of air-conditioning systems concerning on constraints and multitype uncertainties. <i>Building Services Engineering Research and Technology</i> , 2010 , 31, 39-55	2.3	29
101	Robust optimal design of district cooling systems and the impacts of uncertainty and reliability. <i>Energy and Buildings</i> , 2016 , 122, 11-22	7	29
100	Development and validation of an effective and robust chiller sequence control strategy using data-driven models. <i>Automation in Construction</i> , 2016 , 65, 78-85	9.6	28
99	In situ performance comparison and evaluation of three chiller sequencing control strategies in a super high-rise building. <i>Energy and Buildings</i> , 2013 , 61, 333-343	7	28
98	A multi-agent based distributed approach for optimal control of multi-zone ventilation systems considering indoor air quality and energy use. <i>Applied Energy</i> , 2020 , 275, 115371	10.7	27
97	Optimal configuration of multiple-chiller plants under cooling load uncertainty for different climate effects and building types. <i>Energy and Buildings</i> , 2018 , 158, 684-697	7	27
96	A data fusion scheme for building automation systems of building central chilling plants. <i>Automation in Construction</i> , 2009 , 18, 302-309	9.6	27
95	A top-down control method of nZEBs for performance optimization at nZEB-cluster-level. <i>Energy</i> , 2018 , 159, 891-904	7.9	27
94	Robustness analysis of chiller sequencing control. <i>Energy Conversion and Management</i> , 2015 , 103, 180-190	10.6	25
93	Multiplexed optimization for complex air conditioning systems. <i>Building and Environment</i> , 2013 , 65, 99-108	10.8	25

92	Adaptive full-range decoupled ventilation strategy and air-conditioning systems for cleanrooms and buildings requiring strict humidity control and their performance evaluation. <i>Energy</i> , 2019 , 168, 883-896	7.9	24
91	A robust control strategy for combining DCV control with economizer control. <i>Energy Conversion and Management</i> , 2002 , 43, 2569-2588	10.6	22
90	An optimization strategy for the control of small capacity heat pump integrated air-conditioning system. <i>Energy Conversion and Management</i> , 2016 , 119, 1-13	10.6	22
89	Feasibility study of a PCM storage tank integrated heating system for outdoor swimming pools during the winter season. <i>Applied Thermal Engineering</i> , 2018 , 134, 490-500	5.8	21
88	Use of uncertainty polytope to describe constraint processes with uncertain time-delay for robust model predictive control applications. <i>ISA Transactions</i> , 2009 , 48, 503-11	5.5	21
87	Online sensor fault diagnosis for robust chiller sequencing control. <i>International Journal of Thermal Sciences</i> , 2010 , 49, 589-602	4.1	21
86	Numerical and experimental study on airborne disinfection by negative ions in air duct flow. <i>Building and Environment</i> , 2018 , 127, 204-210	6.5	21
85	Robustness enhancement for chiller sequencing control under uncertainty. <i>Applied Thermal Engineering</i> , 2018 , 141, 811-818	5.8	21
84	Multiplexed real-time optimization of HVAC systems with enhanced control stability. <i>Applied Energy</i> , 2017 , 187, 640-651	10.7	20
83	Neighborhood-level coordination and negotiation techniques for managing demand-side flexibility in residential microgrids. <i>Renewable and Sustainable Energy Reviews</i> , 2021 , 135, 110248	16.2	19
82	Robust optimal design of distributed energy systems based on life-cycle performance analysis using a probabilistic approach considering uncertainties of design inputs and equipment degradations. <i>Applied Energy</i> , 2018 , 231, 615-627	10.7	19
81	A collaborative control optimization of grid-connected net zero energy buildings for performance improvements at building group level. <i>Energy</i> , 2018 , 164, 536-549	7.9	19
80	An hourly simulation method for the energy performance of an office building served by a ground-coupled heat pump system. <i>Renewable Energy</i> , 2018 , 126, 495-508	8.1	18
79	A robust design of nearly zero energy building systems considering performance degradation and maintenance. <i>Energy</i> , 2018 , 163, 905-919	7.9	18
78	A novel model based on multi-grained cascade forests with wavelet denoising for indoor occupancy estimation. <i>Building and Environment</i> , 2020 , 167, 106461	6.5	17
77	Performance of distributed energy systems in buildings in cooling dominated regions and the impacts of energy policies. <i>Applied Thermal Engineering</i> , 2017 , 127, 281-291	5.8	16
76	A rule augmented statistical method for air-conditioning system fault detection and diagnostics. <i>Energy and Buildings</i> , 2012 , 54, 154-159	7	16
75	Sizing heating, ventilating, and air-conditioning systems under uncertainty in both load-demand and capacity-supply side from a life-cycle aspect. <i>Science and Technology for the Built Environment</i> , 2017 , 23, 367-381	1.8	15

74	Fusion of redundant measurements for enhancing the reliability of total cooling load based chiller sequencing control. <i>Automation in Construction</i> , 2011 , 20, 789-798	9.6	15
73	Global decentralized robust stabilization for interconnected uncertain nonlinear systems with multiple inputs. <i>Automatica</i> , 2001 , 37, 1435-1442	5.7	15
72	Calculation of the maximum moisture buffering thickness of building wall layer of hygroscopic material. <i>Building and Environment</i> , 2019 , 160, 106173	6.5	14
71	Event-driven optimal control of central air-conditioning systems: Event-space establishment. <i>Science and Technology for the Built Environment</i> , 2018 , 24, 839-849	1.8	14
70	Estimation of soil and grout thermal properties for ground-coupled heat pump systems: Development and application. <i>Applied Thermal Engineering</i> , 2018 , 143, 112-122	5.8	14
69	Enhancing the Reliability of Chiller Control Using Fused Measurement of Building Cooling Load. <i>HVAC and R Research</i> , 2008 , 14, 941-958		14
68	A hybrid predictive sequencing control for multi-chiller plant with considerations of indoor environment control, energy conservation and economical operation cost. <i>Sustainable Cities and Society</i> , 2019 , 49, 101616	10.1	13
67	Model-based optimal start control strategy for multi-chiller plants in commercial buildings. <i>Building Services Engineering Research and Technology</i> , 2010 , 31, 113-129	2.3	13
66	Realization of robust nonlinear model predictive control by offline optimisation. <i>Journal of Process Control</i> , 2008 , 18, 431-438	3.9	13
65	A risk-based robust optimal chiller sequencing control strategy for energy-efficient operation considering measurement uncertainties. <i>Applied Energy</i> , 2020 , 280, 115983	10.7	13
64	Degree of freedom based set-point reset scheme for HVAC real-time optimization. <i>Energy and Buildings</i> , 2016 , 128, 349-359	7	12
63	Data mining approach for improving the optimal control of HVAC systems: An event-driven strategy. <i>Journal of Building Engineering</i> , 2021 , 39, 102246	5.2	12
62	Space temperature control of a GSHP-integrated air-conditioning system. <i>Energy and Buildings</i> , 2015 , 108, 127-136	7	11
61	Inverse optimization of building thermal resistance and capacitance for minimizing air conditioning loads. <i>Renewable Energy</i> , 2020 , 148, 975-986	8.1	11
60	Investigation of the ageing effect on chiller plant maximum cooling capacity using Bayesian Markov Chain Monte Carlo method. <i>Journal of Building Performance Simulation</i> , 2016 , 9, 529-541	2.8	10
59	Energy performance enhancement of Hong Kong International Airport through chilled water system integration and control optimization. <i>Applied Thermal Engineering</i> , 2013 , 60, 303-315	5.8	10
58	Adaptive regression model-based real-time optimal control of central air-conditioning systems. <i>Applied Energy</i> , 2020 , 276, 115427	10.7	10
57	Comparative analysis of U-pipe location on the sizing of borehole heat exchangers. <i>Applied Thermal Engineering</i> , 2019 , 150, 666-673	5.8	10

56	A hierarchical optimal control strategy for continuous demand response of building HVAC systems to provide frequency regulation service to smart power grids. <i>Energy</i> , 2021 , 230, 120741	7.9	10
55	Improvements on the American Society of Heating, Refrigeration, and Air-Conditioning Engineers Handbook equations for sizing borehole ground heat exchangers. <i>Science and Technology for the Built Environment</i> , 2017 , 23, 1267-1281	1.8	9
54	A new distributed energy system configuration for cooling dominated districts and the performance assessment based on real site measurements. <i>Renewable Energy</i> , 2019 , 131, 390-403	8.1	9
53	Two-Loop Robust Model Predictive Control for the Temperature Control of Air-Handling Units. <i>HVAC and R Research</i> , 2008 , 14, 565-580		9
52	Condensation-free radiant cooling with double-skin infrared-transparent membranes. <i>Building and Environment</i> , 2021 , 193, 107660	6.5	9
51	Development of a moisture transfer calculation method of hygroscopic material plate in buildings. <i>Building and Environment</i> , 2018 , 142, 398-413	6.5	9
50	Development of a simplified dynamic moisture transfer model of building wall layer of hygroscopic material. <i>Energy</i> , 2019 , 183, 1278-1294	7.9	8
49	A Data Mining Approach to Discover Critical Events for Event-Driven Optimization in Building Air Conditioning Systems. <i>Energy Procedia</i> , 2017 , 143, 251-257	2.3	8
48	Data fusion heat pump performance estimation. <i>Energy and Buildings</i> , 2011 , 43, 621-630	7	7
47	Transfer function model and frequency domain validation of moisture sorption in air-conditioned buildings. <i>Building and Environment</i> , 2001 , 36, 579-588	6.5	7
46	Analytical solution and economic impact for improved p(t)-linear average method to estimate the ground thermal properties during in situ thermal response test. <i>Science and Technology for the Built Environment</i> , 2017 , 23, 324-333	1.8	6
45	The study of the dynamic load forecasting model about air-conditioning system based on the terminal user load. <i>Energy and Buildings</i> , 2015 , 94, 263-268	7	6
44	Swimming pool heating technology: A state-of-the-art review. <i>Building Simulation</i> , 2021 , 14, 421-440	3.9	6
43	Techno-economic performance analysis of synergistic energy sharing strategies for grid-connected prosumers with distributed battery storages. <i>Renewable Energy</i> , 2021 , 178, 1261-1278	8.1	6
42	Recent Developments in HVAC System Control and Building Demand Management. <i>Current Sustainable/Renewable Energy Reports</i> , 2017 , 4, 15-21	2.8	5
41	Uncertainty shift in robust predictive control design for application in CAV air-conditioning systems. <i>Building Services Engineering Research and Technology</i> , 2011 , 32, 329-343	2.3	5
40	Uncertainty-based robust optimal design of cleanroom air-conditioning systems considering life-cycle performance. <i>Indoor and Built Environment</i> , 2020 , 29, 1214-1226	1.8	5
39	Experimental study of a bilinear control for a GSHP integrated air-conditioning system. <i>Energy and Buildings</i> , 2016 , 133, 104-110	7	5

38	Experimental investigation on the dynamic thermal performance of the parallel solar-assisted air-source heat pump latent heat thermal energy storage system. <i>Renewable Energy</i> , 2021 , 180, 637-657	8.1	5
37	Development of event-driven optimal control for central air-conditioning systems. <i>Journal of Building Performance Simulation</i> , 2020 , 13, 378-390	2.8	4
36	Robustness Analysis and Enhancement of Chiller Sequencing Control under Uncertainties. <i>Procedia Engineering</i> , 2017 , 205, 1878-1885		4
35	A study on the integration of air-source heat pumps, solar collectors, and PCM tanks for outdoor swimming pools for winter application in subtropical climates. <i>Journal of Building Performance Simulation</i> , 2020 , 13, 662-683	2.8	4
34	Investigation of maximum cooling loss in a piping network using Bayesian Markov Chain Monte Carlo method. <i>Journal of Building Performance Simulation</i> , 2019 , 12, 117-132	2.8	4
33	Regional climate effects on the optimal thermal resistance and capacitance of residential building walls. <i>Energy and Buildings</i> , 2021 , 244, 111030	7	4
32	An event-driven multi-agent based distributed optimal control strategy for HVAC systems in IoT-enabled smart buildings. <i>Automation in Construction</i> , 2021 , 132, 103919	9.6	4
31	Design optimization of the PCM storage tank for heating an Open-air swimming pool. <i>Procedia Engineering</i> , 2017 , 205, 842-848		3
30	Transient Ground and Grout Parameters Estimation Method for a Ground-Coupled Heat Pump System with Sandbox TRT Reference Data. <i>Procedia Engineering</i> , 2017 , 205, 2662-2669		3
29	The impact of providing frequency regulation service to power grids on indoor environment control and dedicated test signals for buildings. <i>Building and Environment</i> , 2020 , 183, 107217	6.5	3
28	An online robust sequencing control strategy for identical chillers using a probabilistic approach concerning flow measurement uncertainties. <i>Applied Energy</i> , 2022 , 317, 119198	10.7	3
27	HVAC Energy Saving in IPS-enabled Large Space: An Occupancy Distribution Based Demand-driven Control Approach. <i>Energy Procedia</i> , 2017 , 105, 2083-2088	2.3	2
26	Generalized eigenvalue minimization for uncertain first-order plus time-delay processes. <i>ISA Transactions</i> , 2014 , 53, 141-9	5.5	2
25	Performance and Benefits of Distributed Energy Systems in Cooling Dominated Regions: A Case Study. <i>Energy Procedia</i> , 2017 , 142, 1991-1996	2.3	2
24	A coordinated VAV control with integration of heat transfer coefficients for improving energy efficiency and thermal comfort. <i>Energy Procedia</i> , 2017 , 143, 271-276	2.3	2
23	Stochastic chiller sequencing control for multiple-chiller plants 2014 ,		2
22	Use of predicted information to improve the control performance of systems with uncertainties. <i>Journal of Process Control</i> , 2009 , 19, 457-463	3.9	2
21	Application of two-loop robust control to air-conditioning systems. <i>Asian Journal of Control</i> , 2009 , 11, 677-687	1.7	2

20	Flow measurement uncertainty quantification for building central cooling systems with multiple water-cooled chillers using a Bayesian approach. <i>Applied Thermal Engineering</i> , 2022 , 202, 117857	5.8	2
19	Engineering a superinsulating wall with a beneficial thermal nonuniformity factor to improve building energy efficiency. <i>Energy and Buildings</i> , 2022 , 256, 111680	7	2
18	Optimal moisture buffering thickness of the hygroscopic material layer: Modeling and derivation. <i>Building and Environment</i> , 2021 , 205, 108257	6.5	2
17	Coordination of commercial prosumers with distributed demand-side flexibility in energy sharing and management system. <i>Energy</i> , 2022 , 248, 123634	7.9	2
16	An Evaluation of Heat Transfer Coefficient in an Independent Zonal Temperature Controls with CFD. <i>Energy Procedia</i> , 2017 , 105, 2260-2266	2.3	1
15	Lifetime commissioning as a tool to achieve energy-efficient solutions. <i>International Journal of Energy Research</i> , 2012 , 36, 987-999	4.5	1
14	Building instantaneous cooling load fused measurement: multiple-sensor-based fusion versus chiller-model-based fusion. <i>Building Services Engineering Research and Technology</i> , 2013 , 34, 177-194	2.3	1
13	Real-time optimal control of HVAC systems: Model accuracy and optimization reward. <i>Journal of Building Engineering</i> , 2022 , 50, 104159	5.2	1
12	Distributed real-time optimal control of central air-conditioning systems. <i>Energy and Buildings</i> , 2021 , 256, 111756	7	1
11	New challenges for optimal design of nearly/net zero energy buildings under post-occupancy performance-based design standards and a risk-benefit based solution. <i>Building Simulation</i> , 1	3.9	1
10	Controllable nano-fibrous interlayers for improved thermal insulation performance. <i>Applied Thermal Engineering</i> , 2020 , 179, 115781	5.8	1
9	Heat transfer modeling and analysis of air-layer integrated radiant cooling unit. <i>Applied Thermal Engineering</i> , 2021 , 194, 117086	5.8	1
8	Thermal environment and thermal comfort built by decoupled radiant cooling units with low radiant cooling temperature. <i>Building and Environment</i> , 2021 , 206, 108342	6.5	1
7	Investigation of maximum cooling loss uncertainty in piping network using Bayesian Markov Chain Monte Carlo method. <i>Energy Procedia</i> , 2017 , 143, 258-263	2.3	0
6	Development of an integrated low-carbon heating system for outdoor swimming pools for winter application. <i>E3S Web of Conferences</i> , 2019 , 111, 03031	0.5	0
5	Optimal setting parameters of cooling system under different climate zones for data center energy efficiency. <i>International Journal of Energy Research</i> , 2021 , 45, 10086-10099	4.5	0
4	Experimental study on reliable operation strategy for multi-split backplane cooling system in data centers. <i>Applied Thermal Engineering</i> , 2022 , 118494	5.8	0
3	Data Reconstruction of Wireless Sensor Network and Zonal Demand Control in a Large-Scale Indoor Space Considering Thermal Coupling. <i>Buildings</i> , 2022 , 12, 15	3.2	0

- 2 Study on the impacts of occupant distribution on the thermal environment of tall and large public spaces. *Building and Environment*, **2022**, 218, 109134 6.5 ○
- 1 A hybrid technique to improve measurement accuracy and reliability in AC systems. *HVAC and R Research*, **2014**, 20, 581-591