Gongsheng Huang

List of Publications by Year in descending order

Source: https://exaly.com/author-pdf/7695039/publications.pdf

Version: 2024-02-01

151 papers	5,528 citations	42 h-index	98622 67 g-index
151	151	151	3332
all docs	docs citations	times ranked	citing authors

#	Article	IF	CITATIONS
1	Supervisory and Optimal Control of Building HVAC Systems: A Review. HVAC and R Research, 2008, 14, 3-32.	0.9	351
2	Simplified building model for transient thermal performance estimation using GA-based parameter identification. International Journal of Thermal Sciences, 2006, 45, 419-432.	2.6	242
3	Model-based optimal control of VAV air-conditioning system using genetic algorithm. Building and Environment, 2000, 35, 471-487.	3.0	225
4	Design optimization and optimal control of grid-connected and standalone nearly/net zero energy buildings. Applied Energy, 2015, 155, 463-477.	5.1	186
5	Parameter estimation of internal thermal mass of building dynamic models using genetic algorithm. Energy Conversion and Management, 2006, 47, 1927-1941.	4.4	169
6	Renewable energy system optimization of low/zero energy buildings using single-objective and multi-objective optimization methods. Energy and Buildings, 2015, 89, 61-75.	3.1	144
7	Supervisory and optimal control of central chiller plants using simplified adaptive models and genetic algorithm. Applied Energy, 2011, 88, 198-211.	5.1	142
8	An optimal control strategy for complex building central chilled water systems for practical and real-time applications. Building and Environment, 2009, 44, 1188-1198.	3.0	119
9	Optimum insulation thicknesses and energy conservation of building thermal insulation materials in Chinese zone of humid subtropical climate. Sustainable Cities and Society, 2020, 52, 101840.	5.1	117
10	Dynamic simulation of a building central chilling system and evaluation of EMCS on-line control strategies. Building and Environment, 1998, 33, 1-20.	3.0	107
11	Thermal performance and service life of vacuum insulation panels with aerogel composite cores. Energy and Buildings, 2017, 154, 606-617.	3.1	96
12	HVAC system design under peak load prediction uncertainty using multiple-criterion decision making technique. Energy and Buildings, 2015, 91, 26-36.	3.1	94
13	Optimal simplified thermal models of building envelope based on frequency domain regression using genetic algorithm. Energy and Buildings, 2007, 39, 525-536.	3.1	83
14	A multi-criteria system design optimization for net zero energy buildings under uncertainties. Energy and Buildings, 2015, 97, 196-204.	3.1	80
15	Model predictive control of VAV zone thermal systems concerning bi-linearity and gain nonlinearity. Control Engineering Practice, 2011, 19, 700-710.	3.2	78
16	Modeling and coupling effect evaluation of thermal conductivity of ternary opacifier/fiber/aerogel composites for super-thermal insulation. Materials and Design, 2017, 133, 224-236.	3.3	77
17	Uncertainty-based life-cycle analysis of near-zero energy buildings for performance improvements. Applied Energy, 2018, 213, 486-498.	5.1	73
18	A robust model predictive control strategy for improving the control performance of air-conditioning systems. Energy Conversion and Management, 2009, 50, 2650-2658.	4.4	72

#	Article	IF	CITATIONS
19	Wireless sensor network based monitoring system for a large-scale indoor space: data process and supply air allocation optimization. Energy and Buildings, 2015, 103, 365-374.	3.1	64
20	Supply-based feedback control strategy of air-conditioning systems for direct load control of buildings responding to urgent requests of smart grids. Applied Energy, 2017, 201, 419-432.	5.1	64
21	Intelligent Buildings and Building Automation. , 0, , .		64
22	Investigation on the properties of a new type of concrete blocks incorporated with PEG/SiO2 composite phase change material. Building and Environment, 2016, 104, 172-177.	3.0	61
23	Optimal design of PCM thermal storage tank and its application for winter available open-air swimming pool. Applied Energy, 2018, 209, 224-235.	5.1	60
24	Numerical and experimental study on the thermal performance of aerogel insulating panels for building energy efficiency. Renewable Energy, 2019, 138, 445-457.	4.3	60
25	Transient heat flow calculation for multilayer constructions using a frequency-domain regression method. Building and Environment, 2003, 38, 45-61.	3.0	59
26	A foamed cement blocks with paraffin/expanded graphite composite phase change solar thermal absorption material. Solar Energy Materials and Solar Cells, 2019, 200, 110038.	3.0	59
27	Neighborhood-level coordination and negotiation techniques for managing demand-side flexibility in residential microgrids. Renewable and Sustainable Energy Reviews, 2021, 135, 110248.	8.2	59
28	A direct load control strategy of centralized air-conditioning systems for building fast demand response to urgent requests of smart grids. Automation in Construction, 2018, 87, 74-83.	4.8	56
29	Chiller sequencing control with enhanced robustness for energy efficient operation. Energy and Buildings, 2009, 41, 1246-1255.	3.1	55
30	Energy efficient HVAC control for an IPS-enabled large space in commercial buildings through dynamic spatial occupancy distribution. Applied Energy, 2017, 207, 305-323.	5.1	55
31	Re-evaluation of building cooling load prediction models for use in humid subtropical area. Energy and Buildings, 2013, 62, 442-449.	3.1	54
32	A multi-agent based distributed approach for optimal control of multi-zone ventilation systems considering indoor air quality and energy use. Applied Energy, 2020, 275, 115371.	5.1	53
33	A CFD-based test method for control of indoor environment and space ventilation. Building and Environment, 2010, 45, 1441-1447.	3.0	52
34	Demand-based temperature control of large-scale rooms aided by wireless sensor network: Energy saving potential analysis. Energy and Buildings, 2014, 68, 532-540.	3.1	52
35	Coordinated optimal design of zero/low energy buildings and their energy systems based on multi-stage design optimization. Energy, 2019, 189, 116202.	4.5	52
36	A transient quasi-3D entire time scale line source model for the fluid and ground temperature prediction of vertical ground heat exchangers (GHEs). Applied Energy, 2016, 170, 65-75.	5.1	51

#	Article	IF	Citations
37	A p(t)-linear average method to estimate the thermal parameters of the borehole heat exchangers for in situ thermal response test. Applied Energy, 2014 , 131 , 211 - 221 .	5.1	49
38	Building-group-level performance evaluations of net zero energy buildings with non-collaborative controls. Applied Energy, 2018, 212, 565-576.	5.1	48
39	Multi-zone outdoor air coordination through Wi-Fi probe-based occupancy sensing. Energy and Buildings, 2018, 159, 495-507.	3.1	46
40	Stochastic chiller sequencing control. Energy and Buildings, 2014, 84, 203-213.	3.1	45
41	A top-down control method of nZEBs for performance optimization at nZEB-cluster-level. Energy, 2018, 159, 891-904.	4.5	45
42	Impacts of renewable energy system design inputs on the performance robustness of net zero energy buildings. Energy, 2015, 93, 1595-1606.	4.5	43
43	Development and validation of an effective and robust chiller sequence control strategy using data-driven models. Automation in Construction, 2016, 65, 78-85.	4.8	42
44	A demand limiting strategy for maximizing monthly cost savings of commercial buildings. Energy and Buildings, 2010, 42, 2219-2230.	3.1	40
45	Event-driven optimization of complex HVAC systems. Energy and Buildings, 2016, 133, 79-87.	3.1	40
46	Robust optimal design of district cooling systems and the impacts of uncertainty and reliability. Energy and Buildings, 2016, 122, 11-22.	3.1	39
47	Techno-economic performance analysis of synergistic energy sharing strategies for grid-connected prosumers with distributed battery storages. Renewable Energy, 2021, 178, 1261-1278.	4.3	39
48	A novel and simple building load calculation model for building and system dynamic simulation. Applied Thermal Engineering, 2001, 21, 683-702.	3.0	38
49	Optimal configuration of multiple-chiller plants under cooling load uncertainty for different climate effects and building types. Energy and Buildings, 2018, 158, 684-697.	3.1	38
50	A collaborative control optimization of grid-connected net zero energy buildings for performance improvements at building group level. Energy, 2018, 164, 536-549.	4.5	36
51	In situ performance comparison and evaluation of three chiller sequencing control strategies in a super high-rise building. Energy and Buildings, 2013, 61, 333-343.	3.1	35
52	Robustness analysis of chiller sequencing control. Energy Conversion and Management, 2015, 103, 180-190.	4.4	35
53	Robust MPC for temperature control of air-conditioning systems concerning on constraints and multitype uncertainties. Building Services Engineering Research and Technology, 2010, 31, 39-55.	0.9	34
54	Uncertainty analysis for chiller sequencing control. Energy and Buildings, 2014, 85, 187-198.	3.1	34

#	Article	IF	Citations
55	Feasibility study of a PCM storage tank integrated heating system for outdoor swimming pools during the winter season. Applied Thermal Engineering, 2018, 134, 490-500.	3.0	33
56	Adaptive full-range decoupled ventilation strategy and air-conditioning systems for cleanrooms and buildings requiring strict humidity control and their performance evaluation. Energy, 2019, 168, 883-896.	4.5	33
57	A data fusion scheme for building automation systems of building central chilling plants. Automation in Construction, 2009, 18, 302-309.	4.8	32
58	A hierarchical optimal control strategy for continuous demand response of building HVAC systems to provide frequency regulation service to smart power grids. Energy, 2021, 230, 120741.	4.5	32
59	Coordination of commercial prosumers with distributed demand-side flexibility in energy sharing and management system. Energy, 2022, 248, 123634.	4.5	32
60	Condensation-free radiant cooling with double-skin infrared-transparent membranes. Building and Environment, 2021, 193, 107660.	3.0	31
61	Experimental investigation on the dynamic thermal performance of the parallel solar-assisted air-source heat pump latent heat thermal energy storage system. Renewable Energy, 2021, 180, 637-657.	4.3	31
62	Multiplexed optimization for complex air conditioning systems. Building and Environment, 2013, 65, 99-108.	3.0	30
63	An optimization strategy for the control of small capacity heat pump integrated air-conditioning system. Energy Conversion and Management, 2016, 119, 1-13.	4.4	30
64	A novel model based on multi-grained cascade forests with wavelet denoising for indoor occupancy estimation. Building and Environment, 2020, 167, 106461.	3.0	30
65	Multiplexed real-time optimization of HVAC systems with enhanced control stability. Applied Energy, 2017, 187, 640-651.	5.1	29
66	A robust design of nearly zero energy building systems considering performance degradation and maintenance. Energy, 2018, 163, 905-919.	4.5	29
67	Numerical and experimental study on airborne disinfection by negative ions in air duct flow. Building and Environment, 2018, 127, 204-210.	3.0	28
68	A robust control strategy for combining DCV control with economizer control. Energy Conversion and Management, 2002, 43, 2569-2588.	4.4	27
69	Online sensor fault diagnosis for robust chiller sequencing control. International Journal of Thermal Sciences, 2010, 49, 589-602.	2.6	25
70	An hourly simulation method for the energy performance of an office building served by a ground-coupled heat pump system. Renewable Energy, 2018, 126, 495-508.	4.3	25
71	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. Applied Energy, 2018, 231, 615-627.	5.1	25
72	Robustness enhancement for chiller sequencing control under uncertainty. Applied Thermal Engineering, 2018, 141, 811-818.	3.0	24

#	Article	IF	Citations
73	A hybrid predictive sequencing control for multi-chiller plant with considerations of indoor environment control, energy conservation and economical operation cost. Sustainable Cities and Society, 2019, 49, 101616.	5.1	24
74	Data mining approach for improving the optimal control of HVAC systems: An event-driven strategy. Journal of Building Engineering, 2021, 39, 102246.	1.6	24
75	Event-driven optimal control of central air-conditioning systems: Event-space establishment. Science and Technology for the Built Environment, 2018, 24, 839-849.	0.8	23
76	A risk-based robust optimal chiller sequencing control strategy for energy-efficient operation considering measurement uncertainties. Applied Energy, 2020, 280, 115983.	5.1	23
77	Use of uncertainty polytope to describe constraint processes with uncertain time-delay for robust model predictive control applications. ISA Transactions, 2009, 48, 503-511.	3.1	22
78	Performance of distributed energy systems in buildings in cooling dominated regions and the impacts of energy policies. Applied Thermal Engineering, 2017, 127, 281-291.	3.0	22
79	Degree of freedom based set-point reset scheme for HVAC real-time optimization. Energy and Buildings, 2016, 128, 349-359.	3.1	21
80	Estimation of soil and grout thermal properties for ground-coupled heat pump systems: Development and application. Applied Thermal Engineering, 2018, 143, 112-122.	3.0	21
81	Calculation of the maximum moisture buffering thickness of building wall layer of hygroscopic material. Building and Environment, 2019, 160, 106173.	3.0	20
82	A rule augmented statistical method for air-conditioning system fault detection and diagnostics. Energy and Buildings, 2012, 54, 154-159.	3.1	19
83	An event-driven multi-agent based distributed optimal control strategy for HVAC systems in IoT-enabled smart buildings. Automation in Construction, 2021, 132, 103919.	4.8	19
84	Realization of robust nonlinear model predictive control by offline optimisation. Journal of Process Control, 2008, 18, 431-438.	1.7	18
85	Heat transfer modeling and analysis of air-layer integrated radiant cooling unit. Applied Thermal Engineering, 2021, 194, 117086.	3.0	18
86	Global decentralized robust stabilization for interconnected uncertain nonlinear systems with multiple inputs. Automatica, 2001, 37, 1435-1442.	3.0	17
87	Enhancing the Reliability of Chiller Control Using Fused Measurement of Building Cooling Load. HVAC and R Research, 2008, 14, 941-958.	0.9	17
88	Model-based optimal start control strategy for multi-chiller plants in commercial buildings. Building Services Engineering Research and Technology, 2010, 31, 113-129.	0.9	17
89	Fusion of redundant measurements for enhancing the reliability of total cooling load based chiller sequencing control. Automation in Construction, 2011, 20, 789-798.	4.8	17
90	Inverse optimization of building thermal resistance and capacitance for minimizing air conditioning loads. Renewable Energy, 2020, 148, 975-986.	4.3	17

#	Article	IF	Citations
91	Sizing heating, ventilating, and air-conditioning systems under uncertainty in both load-demand and capacity-supply side from a life-cycle aspect. Science and Technology for the Built Environment, 2017, 23, 367-381.	0.8	16
92	A new distributed energy system configuration for cooling dominated districts and the performance assessment based on real site measurements. Renewable Energy, 2019, 131, 390-403.	4.3	15
93	Adaptive regression model-based real-time optimal control of central air-conditioning systems. Applied Energy, 2020, 276, 115427.	5.1	15
94	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. Journal of Building Performance Simulation, 2020, 13, 662-683.	1.0	15
95	Thermal environment and thermal comfort built by decoupled radiant cooling units with low radiant cooling temperature. Building and Environment, 2021, 206, 108342.	3.0	15
96	Two-Loop Robust Model Predictive Control for the Temperature Control of Air-Handling Units. HVAC and R Research, 2008, 14, 565-580.	0.9	14
97	Investigation of the ageing effect on chiller plant maximum cooling capacity using Bayesian Markov Chain Monte Carlo method. Journal of Building Performance Simulation, 2016, 9, 529-541.	1.0	14
98	The study of the dynamic load forecasting model about air-conditioning system based on the terminal user load. Energy and Buildings, 2015, 94, 263-268.	3.1	13
99	Space temperature control of a GSHP-integrated air-conditioning system. Energy and Buildings, 2015, 108, 127-136.	3.1	13
100	Comparative analysis of U-pipe location on the sizing of borehole heat exchangers. Applied Thermal Engineering, 2019, 150, 666-673.	3.0	13
101	Swimming pool heating technology: A state-of-the-art review. Building Simulation, 2021, 14, 421-440.	3.0	13
102	Flow measurement uncertainty quantification for building central cooling systems with multiple water-cooled chillers using a Bayesian approach. Applied Thermal Engineering, 2022, 202, 117857.	3.0	13
103	Energy performance enhancement of Hong Kong International Airport through chilled water system integration and control optimization. Applied Thermal Engineering, 2013, 60, 303-315.	3.0	12
104	Development of a moisture transfer calculation method of hygroscopic material plate in buildings. Building and Environment, 2018, 142, 398-413.	3.0	12
105	Regional climate effects on the optimal thermal resistance and capacitance of residential building walls. Energy and Buildings, 2021, 244, 111030.	3.1	11
106	Uncertainty-based robust optimal design of cleanroom air-conditioning systems considering life-cycle performance. Indoor and Built Environment, 2020, 29, 1214-1226.	1.5	11
107	Improvements on the American Society of Heating, Refrigeration, and Air-Conditioning Engineers Handbook equations for sizing borehole ground heat exchangers. Science and Technology for the Built Environment, 2017, 23, 1267-1281.	0.8	10
108	Development of a simplified dynamic moisture transfer model of building wall layer of hygroscopic material. Energy, 2019, 183, 1278-1294.	4.5	10

#	Article	IF	Citations
109	The impact of providing frequency regulation service to power grids on indoor environment control and dedicated test signals for buildings. Building and Environment, 2020, 183, 107217.	3.0	10
110	Engineering a superinsulating wall with a beneficial thermal nonuniformity factor to improve building energy efficiency. Energy and Buildings, 2022, 256, 111680.	3.1	10
111	A Data Mining Approach to Discover Critical Events for Event-Driven Optimization in Building Air Conditioning Systems. Energy Procedia, 2017, 143, 251-257.	1.8	9
112	Experimental study on reliable operation strategy for multi-split backplane cooling system in data centers. Applied Thermal Engineering, 2022, 211, 118494.	3.0	9
113	Editorial: Wireless Networks and Their Applications in Building Automation Systems. HVAC and R Research, 2008, 14, 529-533.	0.9	8
114	Data fusion heat pump performance estimation. Energy and Buildings, 2011, 43, 621-630.	3.1	8
115	An online robust sequencing control strategy for identical chillers using a probabilistic approach concerning flow measurement uncertainties. Applied Energy, 2022, 317, 119198.	5.1	8
116	Transfer function model and frequency domain validation of moisture sorption in air-conditioned buildings. Building and Environment, 2001, 36, 579-588.	3.0	7
117	Use of predicted information to improve the control performance of systems with uncertainties. Journal of Process Control, 2009, 19, 457-463.	1.7	7
118	Analytical solution and economic impact for improved $\langle i \rangle p \langle i \rangle (\langle i \rangle t \langle i \rangle)$ -linear average method to estimate the ground thermal properties during $\langle i \rangle$ in situ $\langle i \rangle$ thermal response test. Science and Technology for the Built Environment, 2017, 23, 324-333.	0.8	7
119	Controllable nano-fibrous interlayers for improved thermal insulation performance. Applied Thermal Engineering, 2020, 179, 115781.	3.0	7
120	Optimal moisture buffering thickness of the hygroscopic material layer: Modeling and derivation. Building and Environment, 2021, 205, 108257.	3.0	7
121	Study on the impacts of occupant distribution on the thermal environment of tall and large public spaces. Building and Environment, 2022, 218, 109134.	3.0	7
122	Experimental study of a bilinear control for a GSHP integrated air-conditioning system. Energy and Buildings, 2016, 133, 104-110.	3.1	6
123	Recent Developments in HVAC System Control and Building Demand Management. Current Sustainable/Renewable Energy Reports, 2017, 4, 15-21.	1.2	6
124	Robustness Analysis and Enhancement of Chiller Sequencing Control under Uncertainties. Procedia Engineering, 2017, 205, 1878-1885.	1.2	6
125	New challenges for optimal design of nearly/net zero energy buildings under post-occupancy performance-based design standards and a risk-benefit based solution. Building Simulation, 2022, 15, 685-698.	3.0	6
126	Uncertainty shift in robust predictive control design for application in CAV air-conditioning systems. Building Services Engineering Research and Technology, 2011, 32, 329-343.	0.9	5

#	Article	IF	CITATIONS
127	Design optimization of the PCM storage tank for heating an Open-air swimming pool. Procedia Engineering, 2017, 205, 842-848.	1.2	5
128	Investigation of maximum cooling loss in a piping network using Bayesian Markov Chain Monte Carlo method. Journal of Building Performance Simulation, 2019, 12, 117-132.	1.0	5
129	Development of event-driven optimal control for central air-conditioning systems. Journal of Building Performance Simulation, 2020, 13, 378-390.	1.0	5
130	Distributed real-time optimal control of central air-conditioning systems. Energy and Buildings, 2022, 256, 111756.	3.1	5
131	A coordinated VAV control with integration of heat transfer coefficients for improving energy efficiency and thermal comfort. Energy Procedia, 2017, 143, 271-276.	1.8	4
132	Room temperature and humidity decoupling control of common variable air volume air-conditioning system based on bilinear characteristics. Energy and Built Environment, 2023, 4, 354-367.	2.9	4
133	Cooling load characteristics of indoor spaces conditioned by decoupled radiant cooling unit with low radiant temperature. Building Simulation, 2022, 15, 2067-2079.	3.0	4
134	An Evaluation of Heat Transfer Coefficient in an Independent Zonal Temperature Controls with CFD. Energy Procedia, 2017, 105, 2260-2266.	1.8	3
135	Transient Ground and Grout Parameters Estimation Method for a Ground-Coupled Heat Pump System with Sandbox TRT Reference Data. Procedia Engineering, 2017, 205, 2662-2669.	1.2	3
136	Optimal setting parameters of cooling system under different climate zones for data center energy efficiency. International Journal of Energy Research, 2021, 45, 10086-10099.	2.2	3
137	Application of twoâ€loop robust control to airâ€conditioning systems. Asian Journal of Control, 2009, 11, 677-687.	1.9	2
138	Stochastic chiller sequencing control for multiple-chiller plants. , 2014, , .		2
139	Generalized eigenvalue minimization for uncertain first-order plus time-delay processes. ISA Transactions, 2014, 53, 141-149.	3.1	2
140	HVAC Energy Saving in IPS-enabled Large Space: An Occupancy Distribution Based Demand-driven Control Approach. Energy Procedia, 2017, 105, 2083-2088.	1.8	2
141	Performance and Benefits of Distributed Energy Systems in Cooling Dominated Regions: A Case Study. Energy Procedia, 2017, 142, 1991-1996.	1.8	2
142	Investigation of maximum cooling loss uncertainty in piping network using Bayesian Markov Chain Monte Carlo method. Energy Procedia, 2017, 143, 258-263.	1.8	2
143	Development of an integrated low-carbon heating system for outdoor swimming pools for winter application. E3S Web of Conferences, 2019, 111, 03031.	0.2	2
144	Real-time optimal control of HVAC systems: Model accuracy and optimization reward. Journal of Building Engineering, 2022, 50, 104159.	1.6	2

#	Article	IF	CITATIONS
145	Data Reconstruction of Wireless Sensor Network and Zonal Demand Control in a Large-Scale Indoor Space Considering Thermal Coupling. Buildings, 2022, 12, 15.	1.4	2
146	Development of a quasi-2D variable resistance–capacitance model for tube-encapsulated phase change material storage tanks. Applied Thermal Engineering, 2022, 214, 118868.	3.0	2
147	Lifetime commissioning as a tool to achieve energy-efficient solutions. International Journal of Energy Research, 2012, 36, 987-999.	2.2	1
148	Building instantaneous cooling load fused measurement: multiple-sensor-based fusion versus chiller-model-based fusion. Building Services Engineering Research and Technology, 2013, 34, 177-194.	0.9	1
149	Improving Cooling Capacity of Condensation-Free Radiant Cooling for Low-Emissivity Chilled Ceiling via Adaptive Double-Skin Infrared Membranes. , 0, 2, .		1
150	A hybrid technique to improve measurement accuracy and reliability in AC systems. HVAC and R Research, 2014, 20, 581-591.	0.9	0
151	A design approach for event-driven optimization in complex air conditioning systems. , 2017, , .		0