

Fu Xiao

List of Publications by Year in descending order

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Version: 2024-02-01

132
papers

7,909
citations

34016

52
h-index

51492

86
g-index

135
all docs

135
docs citations

135
times ranked

4630
citing authors

#	ARTICLE	IF	CITATIONS
1	A short-term building cooling load prediction method using deep learning algorithms. Applied Energy, 2017, 195, 222-233.	5.1	481
2	Development of prediction models for next-day building energy consumption and peak power demand using data mining techniques. Applied Energy, 2014, 127, 1-10.	5.1	414
3	Peak load shifting control using different cold thermal energy storage facilities in commercial buildings: A review. Energy Conversion and Management, 2013, 71, 101-114.	4.4	259
4	Quantitative energy performance assessment methods for existing buildings. Energy and Buildings, 2012, 55, 873-888.	3.1	240
5	Data mining in building automation system for improving building operational performance. Energy and Buildings, 2014, 75, 109-118.	3.1	210
6	Pattern recognition-based chillers fault detection method using Support Vector Data Description (SVDD). Applied Energy, 2013, 112, 1041-1048.	5.1	201
7	Analytical investigation of autoencoder-based methods for unsupervised anomaly detection in building energy data. Applied Energy, 2018, 211, 1123-1135.	5.1	183
8	AHU sensor fault diagnosis using principal component analysis method. Energy and Buildings, 2004, 36, 147-160.	3.1	180
9	An intelligent chiller fault detection and diagnosis methodology using Bayesian belief network. Energy and Buildings, 2013, 57, 278-288.	3.1	176
10	A framework for knowledge discovery in massive building automation data and its application in building diagnostics. Automation in Construction, 2015, 50, 81-90.	4.8	173
11	An interactive building power demand management strategy for facilitating smart grid optimization. Applied Energy, 2014, 116, 297-310.	5.1	150
12	Research and application of evaporative cooling in China: A review (I) Research. Renewable and Sustainable Energy Reviews, 2012, 16, 3535-3546.	8.2	146
13	Unsupervised data analytics in mining big building operational data for energy efficiency enhancement: A review. Energy and Buildings, 2018, 159, 296-308.	3.1	146
14	Statistical investigations of transfer learning-based methodology for short-term building energy predictions. Applied Energy, 2020, 262, 114499.	5.1	130
15	Diagnostic Bayesian networks for diagnosing air handling units faults " part I: Faults in dampers, fans, filters and sensors. Applied Thermal Engineering, 2017, 111, 1272-1286.	3.0	124
16	Temporal knowledge discovery in big BAS data for building energy management. Energy and Buildings, 2015, 109, 75-89.	3.1	118
17	Advanced data analytics for enhancing building performances: From data-driven to big data-driven approaches. Building Simulation, 2021, 14, 3-24.	3.0	116
18	A system-level fault detection and diagnosis strategy for HVAC systems involving sensor faults. Energy and Buildings, 2010, 42, 477-490.	3.1	114

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19	Control performance of a dedicated outdoor air system adopting liquid desiccant dehumidification. Applied Energy, 2011, 88, 143-149.	5.1	106
20	A novel methodology to explain and evaluate data-driven building energy performance models based on interpretable machine learning. Applied Energy, 2019, 235, 1551-1560.	5.1	103
21	Investigation of a novel thermoelectric radiant air-conditioning system. Energy and Buildings, 2013, 59, 123-132.	3.1	102
22	Enhanced chiller sensor fault detection, diagnosis and estimation using wavelet analysis and principal component analysis methods. Applied Thermal Engineering, 2008, 28, 226-237.	3.0	101
23	Bayesian network based FDD strategy for variable air volume terminals. Automation in Construction, 2014, 41, 106-118.	4.8	101
24	District cooling systems: Technology integration, system optimization, challenges and opportunities for applications. Renewable and Sustainable Energy Reviews, 2016, 53, 253-264.	8.2	101
25	A grey-box model of next-day building thermal load prediction for energy-efficient control. International Journal of Energy Research, 2008, 32, 1418-1431.	2.2	100
26	A statistical fault detection and diagnosis method for centrifugal chillers based on exponentially-weighted moving average control charts and support vector regression. Applied Thermal Engineering, 2013, 51, 560-572.	3.0	99
27	Price-responsive model-based optimal demand response control of inverter air conditioners using genetic algorithm. Applied Energy, 2018, 219, 151-164.	5.1	94
28	Price-responsive model predictive control of floor heating systems for demand response using building thermal mass. Applied Thermal Engineering, 2019, 153, 316-329.	3.0	94
29	Attention-based interpretable neural network for building cooling load prediction. Applied Energy, 2021, 299, 117238.	5.1	92
30	A model-based optimal ventilation control strategy of multi-zone VAV air-conditioning systems. Applied Thermal Engineering, 2009, 29, 91-104.	3.0	91
31	Active pipe-embedded structures in buildings for utilizing low-grade energy sources: A review. Energy and Buildings, 2010, 42, 1567-1581.	3.1	87
32	Investigation of demand response potentials of residential air conditioners in smart grids using grey-box room thermal model. Applied Energy, 2017, 207, 324-335.	5.1	87
33	Detection and diagnosis of AHU sensor faults using principal component analysis method. Energy Conversion and Management, 2004, 45, 2667-2686.	4.4	84
34	Smart Detection of Fire Source in Tunnel Based on the Numerical Database and Artificial Intelligence. Fire Technology, 2021, 57, 657-682.	1.5	81
35	A supervisory control strategy for building cooling water systems for practical and real time applications. Energy Conversion and Management, 2008, 49, 2324-2336.	4.4	78
36	Investigation on capacity matching in liquid desiccant and heat pump hybrid air-conditioning systems. International Journal of Refrigeration, 2012, 35, 160-170.	1.8	73

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37	Control strategies for a liquid desiccant air-conditioning system. <i>Energy and Buildings</i> , 2011, 43, 1499-1507.	3.1	69
38	An isolation enhanced PCA method with expert-based multivariate decoupling for sensor FDD in air-conditioning systems. <i>Applied Thermal Engineering</i> , 2009, 29, 712-722.	3.0	66
39	Progress and methodologies of lifecycle commissioning of HVAC systems to enhance building sustainability. <i>Renewable and Sustainable Energy Reviews</i> , 2009, 13, 1144-1149.	8.2	64
40	Model-based optimal control of a dedicated outdoor air-chilled ceiling system using liquid desiccant and membrane-based total heat recovery. <i>Applied Energy</i> , 2011, 88, 4180-4190.	5.1	64
41	A hybrid building thermal modeling approach for predicting temperatures in typical, detached, two-story houses. <i>Applied Energy</i> , 2019, 236, 101-116.	5.1	60
42	A fault detection and diagnosis strategy with enhanced sensitivity for centrifugal chillers. <i>Applied Thermal Engineering</i> , 2011, 31, 3963-3970.	3.0	59
43	Neighborhood-level coordination and negotiation techniques for managing demand-side flexibility in residential microgrids. <i>Renewable and Sustainable Energy Reviews</i> , 2021, 135, 110248.	8.2	59
44	A diagnostic tool for online sensor health monitoring in air-conditioning systems. <i>Automation in Construction</i> , 2006, 15, 489-503.	4.8	58
45	Development of dynamic simplified thermal models of active pipe-embedded building envelopes using genetic algorithm. <i>International Journal of Thermal Sciences</i> , 2014, 76, 258-272.	2.6	58
46	Robust optimal design of building cooling systems considering cooling load uncertainty and equipment reliability. <i>Applied Energy</i> , 2015, 159, 265-275.	5.1	58
47	A robust pattern recognition-based fault detection and diagnosis (FDD) method for chillers. <i>HVAC and R Research</i> , 2014, 20, 798-809.	0.9	57
48	Development of an ANN-based building energy model for information-poor buildings using transfer learning. <i>Building Simulation</i> , 2021, 14, 89-101.	3.0	57
49	An experimental study on the dehumidification performance of a counter flow liquid desiccant dehumidifier. <i>International Journal of Refrigeration</i> , 2016, 70, 289-301.	1.8	55
50	Model-based optimal design of active cool thermal energy storage for maximal life-cycle cost saving from demand management in commercial buildings. <i>Applied Energy</i> , 2017, 201, 382-396.	5.1	55
51	A simplified energy performance assessment method for existing buildings based on energy bill disaggregation. <i>Energy and Buildings</i> , 2012, 55, 563-574.	3.1	54
52	Frequency control of air conditioners in response to real-time dynamic electricity prices in smart grids. <i>Applied Energy</i> , 2019, 242, 92-106.	5.1	54
53	A Novel Strategy for the Fault Detection and Diagnosis of Centrifugal Chiller Systems. <i>HVAC and R Research</i> , 2009, 15, 57-75.	0.9	53
54	An uncertainty-based design optimization method for district cooling systems. <i>Energy</i> , 2016, 102, 516-527.	4.5	53

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55	Quantifying uncertainty in the aggregate energy flexibility of high-rise residential building clusters considering stochastic occupancy and occupant behavior. <i>Energy</i> , 2020, 194, 116838.	4.5	53
56	Performance assessment of district cooling systems for a new development district at planning stage. <i>Applied Energy</i> , 2015, 140, 33-43.	5.1	51
57	Numerical and experimental analysis of transient supercooling effect of voltage pulse on thermoelectric element. <i>International Journal of Refrigeration</i> , 2012, 35, 1156-1165.	1.8	50
58	A multi-level energy performance diagnosis method for energy information poor buildings. <i>Energy</i> , 2015, 83, 189-203.	4.5	50
59	Research and applications of evaporative cooling in China: A review (II) – Systems and equipment. <i>Renewable and Sustainable Energy Reviews</i> , 2012, 16, 3523-3534.	8.2	49
60	Simultaneous heat and moisture transfer through a composite supported liquid membrane. <i>International Journal of Heat and Mass Transfer</i> , 2008, 51, 2179-2189.	2.5	48
61	Performance analysis of liquid desiccant based air-conditioning system under variable fresh air ratios. <i>Energy and Buildings</i> , 2010, 42, 2457-2464.	3.1	47
62	An online adaptive optimal control strategy for complex building chilled water systems involving intermediate heat exchangers. <i>Applied Thermal Engineering</i> , 2013, 50, 614-628.	3.0	47
63	Neural network based prediction method for preventing condensation in chilled ceiling systems. <i>Energy and Buildings</i> , 2012, 45, 290-298.	3.1	44
64	Discovering gradual patterns in building operations for improving building energy efficiency. <i>Applied Energy</i> , 2018, 224, 116-123.	5.1	43
65	A real-time forecast of tunnel fire based on numerical database and artificial intelligence. <i>Building Simulation</i> , 2022, 15, 511-524.	3.0	43
66	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.	4.8	42
67	Development and validation of a simplified online cooling load prediction strategy for a super high-rise building in Hong Kong. <i>Energy Conversion and Management</i> , 2013, 68, 20-27.	4.4	40
68	Building demand response and control methods for smart grids: A review. <i>Science and Technology for the Built Environment</i> , 2016, 22, 692-704.	0.8	40
69	Probabilistic approach for uncertainty-based optimal design of chiller plants in buildings. <i>Applied Energy</i> , 2017, 185, 1613-1624.	5.1	40
70	Online performance evaluation of alternative control strategies for building cooling water systems prior to in situ implementation. <i>Applied Energy</i> , 2009, 86, 712-721.	5.1	39
71	Robust optimal design of district cooling systems and the impacts of uncertainty and reliability. <i>Energy and Buildings</i> , 2016, 122, 11-22.	3.1	39
72	Perspectives of big experimental database and artificial intelligence in tunnel fire research. <i>Tunnelling and Underground Space Technology</i> , 2021, 108, 103691.	3.0	39

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73	Real-time forecast of compartment fire and flashover based on deep learning. <i>Fire Safety Journal</i> , 2022, 130, 103579.	1.4	39
74	The step-change cooling performance of miniature thermoelectric module for pulse laser. <i>Energy Conversion and Management</i> , 2014, 80, 39-45.	4.4	38
75	Sensor Fault Detection and Diagnosis of Air-Handling Units Using a Condition-Based Adaptive Statistical Method. <i>HVAC and R Research</i> , 2006, 12, 127-150.	0.9	35
76	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.	3.1	35
77	Conjugate heat and mass transfer in a total heat exchanger with cross-corrugated triangular ducts and one-step made asymmetric membranes. <i>International Journal of Heat and Mass Transfer</i> , 2015, 84, 390-400.	2.5	35
78	A data analytics-based tool for the detection and diagnosis of anomalous daily energy patterns in buildings. <i>Building Simulation</i> , 2021, 14, 131-147.	3.0	34
79	A semi-dynamic model of active pipe-embedded building envelope for thermal performance evaluation. <i>International Journal of Thermal Sciences</i> , 2015, 88, 170-179.	2.6	33
80	A data fusion scheme for building automation systems of building central chilling plants. <i>Automation in Construction</i> , 2009, 18, 302-309.	4.8	32
81	A dynamic dehumidifier model for simulations and control of liquid desiccant hybrid air conditioning systems. <i>Energy and Buildings</i> , 2017, 140, 418-429.	3.1	26
82	A museum storeroom air-conditioning system employing the temperature and humidity independent control device in the cooling coil. <i>Applied Thermal Engineering</i> , 2011, 31, 3653-3657.	3.0	25
83	Experimental study on the effect of magnetic field on the heat conductivity and viscosity of ammonia-water. <i>Energy and Buildings</i> , 2011, 43, 1164-1168.	3.1	24
84	Diagnosis of the low temperature difference syndrome in the chilled water system of a super high-rise building: A case study. <i>Applied Energy</i> , 2012, 98, 597-606.	5.1	24
85	Mining big building operational data for improving building energy efficiency: A case study. <i>Building Services Engineering Research and Technology</i> , 2018, 39, 117-128.	0.9	24
86	A graph mining-based methodology for discovering and visualizing high-level knowledge for building energy management. <i>Applied Energy</i> , 2019, 251, 113395.	5.1	24
87	Experimental study on ammonia-water falling film absorption in external magnetic fields. <i>International Journal of Refrigeration</i> , 2010, 33, 686-694.	1.8	23
88	Cooling Supply-based HVAC System Control for Fast Demand Response of Buildings to Urgent Requests of Smart Grids. <i>Energy Procedia</i> , 2016, 103, 34-39.	1.8	23
89	Performance study of a constant temperature and humidity air-conditioning system with temperature and humidity independent control device. <i>Energy and Buildings</i> , 2012, 49, 640-646.	3.1	20
90	The practical performance forecast and analysis of thermoelectric module from macro to micro. <i>Energy Conversion and Management</i> , 2015, 100, 23-29.	4.4	19

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91	Assessment of Building Operational Performance Using Data Mining Techniques: A Case Study. Energy Procedia, 2017, 111, 1070-1078.	1.8	19
92	Robust optimal design of building cooling systems concerning uncertainties using mini-max regret theory. Science and Technology for the Built Environment, 2015, 21, 789-799.	0.8	18
93	Urban Traffic Prediction through the Second Use of Inexpensive Big Data from Buildings. , 2016, , .		18
94	Performance Assessment of District Cooling System Coupled with Different Energy Technologies in Subtropical Area. Energy Procedia, 2015, 75, 1235-1241.	1.8	16
95	Wetting enhancement of polypropylene plate for falling film tower application. Chemical Engineering and Processing: Process Intensification, 2016, 108, 1-9.	1.8	15
96	Analysis of Typical Meteorological Year selection for energy simulation of building with daylight utilization. Procedia Engineering, 2017, 205, 3080-3087.	1.2	13
97	Mining Gradual Patterns in Big Building Operational Data for Building Energy Efficiency Enhancement. Energy Procedia, 2017, 143, 119-124.	1.8	12
98	Effects of initial mist conditions on simulation accuracy of humidity distribution in an environmental chamber. Building and Environment, 2012, 47, 217-222.	3.0	11
99	Optimization of a liquid desiccant based dedicated outdoor air-chilled ceiling system serving multi-zone spaces. Building Simulation, 2012, 5, 257-266.	3.0	10
100	Effects of discharge recirculation in cooling towers on energy efficiency and visible plume potential of chilling plants. Applied Thermal Engineering, 2012, 39, 37-44.	3.0	10
101	Effects of different inlet vent positions on the uniformity of humidity inside a building chamber. Energy and Buildings, 2014, 76, 565-571.	3.1	10
102	Investigation of the Demand Response Potentials of Residential Air Conditioners Using Grey-box Room Thermal Model. Energy Procedia, 2017, 105, 2759-2765.	1.8	10
103	Generation of typical meteorological year for integrated climate based daylight modeling and building energy simulation. Renewable Energy, 2020, 160, 721-729.	4.3	10
104	Research and Applications of Data Mining Techniques for Improving Building Operational Performance. Current Sustainable/Renewable Energy Reports, 2018, 5, 181-188.	1.2	9
105	An adaptive optimal monthly peak building demand limiting strategy considering load uncertainty. Applied Energy, 2019, 253, 113582.	5.1	9
106	Retrofitting building fire service water tanks as chilled water storage for power demand limiting. Building Services Engineering Research and Technology, 2017, 38, 47-63.	0.9	8
107	Discovering Complex Knowledge in Massive Building Operational Data Using Graph Mining for Building Energy Management. Energy Procedia, 2019, 158, 2481-2487.	1.8	8
108	District cooling systems and individual cooling systems: Comparative analysis and impacts of key factors. Science and Technology for the Built Environment, 2017, 23, 241-250.	0.8	7

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109	Experimental investigation of maldistribution in vertical plate falling film tower. Chemical Engineering Communications, 2017, 204, 1237-1245.	1.5	7
110	A model-based adaptive method for evaluating the energy impact of low delta-T syndrome in complex HVAC systems using support vector regression. Building Services Engineering Research and Technology, 2016, 37, 573-596.	0.9	6
111	Identification of simplified energy performance models of variable-speed air conditioners using likelihood ratio test method. Science and Technology for the Built Environment, 2020, 26, 75-88.	0.8	6
112	Study on heat and mass transfer characteristics of internally-cooled hollow fiber membrane-based liquid desiccant dehumidifiers. Applied Thermal Engineering, 2022, 212, 118525.	3.0	6
113	Energy-efficient decentralized control method with enhanced robustness for multi-evaporator air conditioning systems. Applied Energy, 2020, 279, 115732.	5.1	5
114	Evaluation of alternative arrangements of a heat pump system for plume abatement in a large-scale chiller plant in a subtropical region. Energy and Buildings, 2009, 41, 596-606.	3.1	4
115	Mining Big Building Operational Data for Building Cooling Load Prediction and Energy Efficiency Improvement. , 2017, , .		4
116	Performance intensification of regeneration process for non-corrosive plastic plate vertical falling film tower. Applied Thermal Engineering, 2019, 162, 114301.	3.0	4
117	A novel modified LiCl solution for three-phase absorption thermal energy storage and its thermal and physical properties. International Journal of Refrigeration, 2021, 130, 44-55.	1.8	4
118	Experimental study of dynamic characteristics of liquid desiccant dehumidification processes. Science and Technology for the Built Environment, 2017, 23, 91-104.	0.8	3
119	Model-based optimal load control of inverter-driven air conditioners responding to dynamic electricity pricing. Energy Procedia, 2017, 142, 1953-1959.	1.8	3
120	Lattice Boltzmann Simulation of Falling Film Flow under Low Reynolds Number. Heat Transfer Engineering, 2018, 39, 1528-1539.	1.2	3
121	Performance analysis of absorption thermal energy storage for distributed energy systems. Energy Procedia, 2019, 158, 3152-3157.	1.8	3
122	Commissioning of AHU sensors using principal component analysis method. Building Services Engineering Research and Technology, 2003, 24, 179-189.	0.9	2
123	Comparison study of air mixing modes in liquid desiccant based all-air air conditioning systems. Building Services Engineering Research and Technology, 2012, 33, 423-435.	0.9	2
124	A Fault Detection and Diagnosis Method for Low Delta-T Syndrome in a Complex Air-conditioning System. Energy Procedia, 2014, 61, 2514-2517.	1.8	2
125	Optimal Design of Active Cool Thermal Energy Storage Concerning Life-cycle Cost Saving for Demand Management in Non-residential Building. Energy Procedia, 2016, 103, 64-69.	1.8	2
126	Humidity control for the built environment. Science and Technology for the Built Environment, 2017, 23, 1-1.	0.8	2

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127	Natural ventilation potential analysis of rural residential buildings in China. , 2011, , .		0
128	Developing associations between building occupancy and traffic congestion. , 2015, , .		0
129	The influence of exterior obstruction on the integrated evaluation of daylight utilization during initial design stage. Procedia Engineering, 2017, 205, 2785-2792.	1.2	0
130	A proactive-adaptive monthly peak demand-limiting strategy for buildings with small-scale thermal storages considering load uncertainty. Science and Technology for the Built Environment, 2019, 25, 1456-1466.	0.8	0
131	Experimental and theoretical analysis of functional controllability for multi-condenser heat pumps. Applied Thermal Engineering, 2020, 171, 115093.	3.0	0
132	Behavior testing of load forecasting models using BuildChecks. , 2022, , .		0