Juan C Ordonez

List of Publications by Year
in descending order

175 papers	1,791 citations	279798 23 h-index	361022 35 g-index
180 all docs	180 docs citations	180 times ranked	1549 citing authors

#	Article	IF	Citations
1	Dynamic analysis of concentrated solar supercritical CO_2-based power generation closed-loop cycle. Applied Thermal Engineering, 2016, 93, 920-934.	6.0	88
2	Entropy generation minimization in parallel-plates counterflow heat exchangers. International Journal of Energy Research, 2000, 24, 843-864.	4.5	74
3	Constructal flow structure for a PEM fuel cell. International Journal of Heat and Mass Transfer, 2004, 47, 4177-4193.	4.8	64
4	Modeling, simulation and optimization of a solar collector driven water heating and absorption cooling plant. Solar Energy, 2009, 83, 1232-1244.	6.1	55
5	Thermodynamic optimization of a Stirling engine. Energy, 2012, 44, 902-910.	8.8	55
6	Constructal PEM fuel cell stack design. International Journal of Heat and Mass Transfer, 2005, 48, 4410-4427.	4.8	52
7	Life cycle assessment of biomass production in microalgae compact photobioreactors. GCB Bioenergy, 2015, 7, 184-194.	5.6	48
8	Microalgae derived biomass and bioenergy production enhancement through biogas purification and wastewater treatment. Renewable Energy, 2021, 163, 1153-1165.	8.9	45
9	Normalized methodology for medical infrared imaging. Infrared Physics and Technology, 2009, 52, 42-47.	2.9	44
10	Minimum power requirement for environmental control of aircraft. Energy, 2003, 28, 1183-1202.	8.8	42
11	Designed porous media: Optimally nonuniform flow structures connecting one point with more points. International Journal of Thermal Sciences, 2003, 42, 857-870.	4.9	42
12	Effect of multi-tank thermal energy storage, recuperator effectiveness, and solar receiver conductance on the performance of a concentrated solar supercritical CO_2-based power plant operating under different seasonal conditions. Energy, 2016, 115, 353-368.	8.8	39
13	Integration of transparent insulation materials into solar collector devices. Solar Energy, 2017, 147, 8-21.	6.1	39
14	The experimental validation of a simplified PEMFC simulation model for design and optimization purposes. Applied Thermal Engineering, 2009, 29, 3036-3048.	6.0	37
15	Modeling, simulation and optimization of a vapor compression refrigeration system dynamic and steady state response. Applied Energy, 2015, 158, 540-555.	10.1	36
16	Single solid oxide fuel cell modeling and optimization. Journal of Power Sources, 2011, 196, 7519-7532.	7.8	34
17	Enhanced biohydrogen production from microalgae by diesel engine hazardous emissions fixation. International Journal of Hydrogen Energy, 2017, 42, 21463-21475.	7.1	29
18	Constructal flow structure for a single SOFC. International Journal of Energy Research, 2007, 31, 1337-1357.	4.5	28

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19	Alkaline membrane fuel cell (AMFC) modeling and experimental validation. Journal of Power Sources, 2012, 213, 16-30.	7.8	28
20	Dynamic 3D volume element model of a parabolic trough solar collector for simulation and optimization. Applied Energy, 2018, 217, 509-526.	10.1	26
21	Enhanced microalgae biomass and lipid output for increased biodiesel productivity. Renewable Energy, 2021, 163, 138-145.	8.9	26
22	Optimization of single SOFC structural design for maximum power. Applied Thermal Engineering, 2013, 50, 12-25.	6.0	25
23	The microalgae derived hydrogen process in compact photobioreactors. International Journal of Hydrogen Energy, 2014, 39, 9588-9598.	7.1	25
24	Constructal dendritic geometry and the existence of asymmetric bifurcation. Journal of Applied Physics, 2006, 100, 113514.	2.5	24
25	Power extraction from a hot stream in the presence of phase change. International Journal of Heat and Mass Transfer, 2000, 43, 191-201.	4.8	23
26	Modeling, simulation and optimization of a beer pasteurization tunnel. Journal of Food Engineering, 2006, 77, 500-513.	5.2	23
27	Exergy analysis of discharging multi-tank thermal energy storage systems with constant heat extraction. Applied Energy, 2015, 154, 333-343.	10.1	23
28	A volume element model (VEM) for energy systems engineering. International Journal of Energy Research, 2015, 39, 46-74.	4.5	23
29	Volume element model for 3D dynamic building thermal modeling and simulation. Energy, 2018, 148, 642-661.	8.8	18
30	Thermodynamic optimization of a solar system for cogeneration of water heating and absorption cooling. International Journal of Energy Research, 2008, 32, 1210-1227.	4.5	16
31	Integrative thermodynamic optimization of a vapor compression refrigeration system based on dynamic system responses. Applied Thermal Engineering, 2018, 135, 493-503.	6.0	16
32	Thermal Modeling of Helium Cooled High-Temperature Superconducting DC Transmission Cable. IEEE Transactions on Applied Superconductivity, 2011, 21, 947-952.	1.7	15
33	Ship weight reduction and efficiency enhancement through combined power cycles. Energy, 2015, 93, 521-533.	8.8	15
34	Mathematical formulation and demonstration of a dynamic system-level ship thermal management tool. Advances in Engineering Software, 2016, 100, 1-18.	3.8	15
35	Constructal vapor compression refrigeration (VCR) systems design. International Journal of Heat and Mass Transfer, 2017, 115, 754-768.	4.8	15
36	Effect of the concentration ratio on energetic and exergetic performance of concentrating solar collectors with integrated transparent insulation materials. Sustainable Energy Technologies and Assessments, 2019, 32, 58-70.	2.7	15

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37	Novel Integrated Energy Systems and Control Methods with Economic Analysis for Integrated Community Based Energy Systems. IEEE Power Engineering Society General Meeting, 2007, , .	0.0	14
38	Electro-Thermal Model for HTS Motor Design. IEEE Transactions on Applied Superconductivity, 2007, 17, 1529-1532.	1.7	14
39	Optimal operating conditions for maximum biogas production in anaerobic bioreactors. Applied Thermal Engineering, 2014, 62, 197-206.	6.0	14
40	Optimally Staggered Finned Circular and Elliptic Tubes in Turbulent Forced Convection. Journal of Heat Transfer, 2007, 129, 674-678.	2.1	13
41	Volume element model mesh generation strategy and its application in ship thermal analysis. Advances in Engineering Software, 2015, 90, 107-118.	3.8	13
42	3D thermal-hydraulic analysis of a symmetric wavy parabolic trough absorber pipe. Energy, 2019, 189, 116320.	8.8	13
43	Thermodynamic optimization of fluidized catalytic cracking (FCC) units. International Journal of Heat and Mass Transfer, 2011, 54, 1187-1197.	4.8	12
44	The experimental validation of a transient power electronic building block (PEBB) mathematical model. Applied Thermal Engineering, 2013, 60, 411-422.	6.0	12
45	Heat transfer fluids for parabolic trough solar collectors - a comparative study. , 2016, , .		11
46	Modeling and simulation of diesel, biodiesel and biogas mixtures driven compression ignition internal combustion engines. International Journal of Energy Research, 2016, 40, 100-111.	4.5	11
47	Energy analysis and exhaust emissions of a stationary engine fueled with diesel–biodiesel blends at variable loads. Journal of the Brazilian Society of Mechanical Sciences and Engineering, 2017, 39, 3237-3247.	1.6	11
48	Thermal management of a notional all-electric ship electromagnetic launcher. Energy Conversion and Management, 2018, 157, 339-350.	9.2	11
49	Shipboard PEBB Cooling Strategies. , 2019, , .		11
50	Transient operation and shape optimization of a single PEM fuel cell. Journal of Power Sources, 2006, 162, 356-368.	7.8	10
51	Global stability of flow in symmetric wavy channels. Journal of Fluid Mechanics, 2013, 733, 625-649.	3.4	10
52	Mass transfer modeling and maximization of hydrogen rhythmic production from genetically modified microalgae biomass. International Journal of Heat and Mass Transfer, 2016, 101, 1-9.	4.8	10
53	The experimental validation of a large-scale compact tubular microalgae photobioreactor model. International Journal of Energy Research, 2017, 41, 2221-2235.	4.5	10
54	A genset and mini-photobioreactor association for CO2 capturing, enhanced microalgae growth and multigeneration. Renewable Energy, 2018, 125, 985-994.	8.9	10

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55	Modeling and optimization of gaseous helium (GHe) cooled high temperature superconducting (HTS) DC cables for high power density transmission. Applied Thermal Engineering, 2018, 143, 922-934.	6.0	10
56	System-level optimization of the sizes of organs for heat and fluid flow systems. International Journal of Thermal Sciences, 2003, 42, 335-342.	4.9	9
57	Optimal Ground Tube Length for Cooling of Electronics Shelters. Heat Transfer Engineering, 2005, 26, 8-20.	1.9	9
58	The inverse methodology of parameter estimation for model adjustment, design, simulation, control and optimization of fluid catalytic cracking (FCC) risers. Journal of Chemical Technology and Biotechnology, 2009, 84, 343-355.	3.2	9
59	Temperature and Pressure Drop Model for Gaseous Helium Cooled Superconducting DC Cables. IEEE Transactions on Applied Superconductivity, 2013, 23, 5402005-5402005.	1.7	9
60	Pumping Power Minimization in Staggered Finned Circular and Elliptic-Tube Heat Exchangers in Turbulent Flow. Experimental Heat Transfer, 2013, 26, 397-411.	3.2	9
61	Three-dimensional launch simulation and active cooling analysis of a single-shot electromagnetic railgun. Simulation, 2014, 90, 1312-1327.	1.8	9
62	Thermal Modeling of Gaseous Helium as a Cryogen for High Temperature Superconducting Cable Components. IEEE Transactions on Applied Superconductivity, 2015, 25, 1-5.	1.7	9
63	The maximization of an alkaline membrane fuel cell (AMFC) net power output. International Journal of Energy Research, 2016, 40, 924-939.	4.5	9
64	Modeling microalgae derived hydrogen production enhancement via genetic modification. International Journal of Hydrogen Energy, 2016, 41, 8101-8110.	7.1	9
65	How the thermal environment shapes the structure of termite mounds. Royal Society Open Science, 2020, 7, 191332.	2.4	9
66	Notional all-electric ship systems integration thermal simulation and visualization. Simulation, 2012, 88, 1116-1128.	1.8	8
67	Thermodynamic optimization of a regenerator heat exchanger. Applied Thermal Engineering, 2012, 45-46, 42-51.	6.0	8
68	Composite electrode modelling and optimization for solid oxide fuel cells. International Journal of Energy Research, 2013, 37, 95-104.	4.5	8
69	A single stage absorption refrigeration system dynamic mathematical modeling, adjustment and experimental validation. International Journal of Refrigeration, 2016, 68, 130-144.	3.4	8
70	Elemental T and Y Shapes of Tree Networks of Ducts with Various Cross-Sectional Shapes. Journal of Hydraulic Engineering, 2009, 135, 132-139.	1.5	7
71	Energy consumption reduction in existing HVAC-R systems via a power law controlling kit. Applied Thermal Engineering, 2015, 82, 341-350.	6.0	7
72	Modeling, cross-validation, and optimization of a shipboard integrated energy system cooling network. Applied Thermal Engineering, 2018, 145, 516-527.	6.0	7

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73	Component Model Development for Ship-Level Impact of High Temperature Superconducting Power Cables. , 2019, , .		7
74	Performance comparison of tube and plate-fin circular and elliptic heat exchangers for HVAC-R systems. Applied Thermal Engineering, 2021, 184, 116288.	6.0	7
75	The role of mound functions and local environment in the diversity of termite mound structures. Journal of Theoretical Biology, 2021, 527, 110823.	1.7	7
76	Notional all-electric ship thermal simulation and visualization. , 2009, , .		6
77	Transient Thermal Finite Element Modeling of HTS Cable Systems Cooled With Gaseous Helium. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-5.	1.7	6
78	Shape optimization of thin flat plate fins with geometries defined by linear piecewise functions. Applied Thermal Engineering, 2017, 112, 572-584.	6.0	6
79	Flapping dynamics of a flag in the presence of thermal convection. Journal of Fluid Mechanics, 2020, 895, .	3.4	6
80	Optimal Cooling Channel Layout in a Hot Enclosure Subject to Natural Convection. Journal of Heat Transfer, 2019, 141, .	2.1	6
81	Effects of salinity and feed temperature on permeate flux of an air gap membrane distillation unit for sea water desalination. , 2013, , .		5
82	Comprehensive system-level thermal modeling of all-electric ships: Integration of SMCS and vemESRDC. , 2015, , .		5
83	Three-Dimensional Finite-Element Analysis of Terminations for Gaseous-Helium-Cooled High-Temperature Superconducting Power Cables. IEEE Transactions on Applied Superconductivity, 2016, 26, 1-5.	1.7	5
84	Investigation of solid nitrogen for cryogenic thermal storage in superconducting cable terminations for enhanced resiliency. IOP Conference Series: Materials Science and Engineering, 2017, 278, 012019.	0.6	5
85	Grid-Scale Ternary-Pumped Thermal Electricity Storage for Flexible Operation of Nuclear Power Generation under High Penetration of Renewable Energy Sources. Energies, 2021, 14, 3858.	3.1	5
86	The optimization of rough surface supersonic nozzles. Acta Astronautica, 2007, 61, 866-872.	3.2	4
87	Modeling and Simulation of the Thermal and Psychrometric Transient Response of All-Electric Ships, Internal Compartments and Cabinets. Simulation, 2008, 84, 427-439.	1.8	4
88	Simulation and Optimization of Cryogenic Heat Sink for Helium Gas Cooled Superconducting Power Devices. IEEE Transactions on Applied Superconductivity, 2013, 23, 5000605-5000605.	1.7	4
89	Stationary ideal flow on a free surface of a given shape. Journal of Fluid Mechanics, 2013, 721, 28-45.	3.4	4
90	Development and implementation of a dynamic vapor compression refrigeration model into vemESRDC ship thermal management tool. , 2015, , .		4

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91	A sustainable alkaline membrane fuel cell (SAMFC) stack characterization, model validation and optimal operation. International Journal of Hydrogen Energy, 2020, 45, 5723-5733.	7.1	4
92	Predicting the Slope of the Temperature–Entropy Vapor Saturation Curve for Working Fluid Selection Based on Lee–Kesler Modeling. Industrial & Engineering Chemistry Research, 2020, 59, 956-969.	3.7	4
93	Hydrogen Production. , 2022, , 419-470.		4
94	A constructal approach to power distribution networks design. Renewable Energy and Power Quality Journal, 2008, 1, 766-772.	0.2	4
95	Energy, Exergy, Entropy Generation Minimization, and Exergoenvironmental Analyses of Energy Systems-A Mini-Review. Frontiers in Sustainability, 2022, 3, .	2.6	4
96	Thermal Model for the AC Armature Winding of a High Temperature Superconductor Airborne Motor. , 2005, , 141.		3
97	First and Second Law Thermodynamic Analysis of a Domestic Scale Trigeneration System. , 2007, , 759.		3
98	Professor Adrian Bejan on his 60th birthday. International Journal of Heat and Mass Transfer, 2008, 51, 5759-5761.	4.8	3
99	Thermal management aspects of all-electric ships. , 2013, , .		3
100	Developing a validated real-time system-level thermal simulation for future all-electric ships. , 2013, , .		3
101	Molten Salt Based Nanofluids for Solar Thermal Power Plant: A Case Study. , 2021, , .		3
102	Thermodynamic Modeling of Heat Engines Including Heat Transfer and Compression–Expansion Irreversibilities. Journal of Thermal Science and Engineering Applications, 2022, 14, .	1.5	3
103	Thermal Simulation of an Off-Grid Zero Emissions Building. , 2014, , .		3
104	Fuel Cell-Based Powertrain System Modeling and Simulation for Small Aircraft Propulsion Applications. Journal of Fuel Cell Science and Technology, 2009, 6, .	0.8	2
105	The Flat Plate Fin of Constant Thickness, Straight Base, and Symmetrical Shape. Journal of Heat Transfer, 2014, 136, .	2.1	2
106	Cryogenic Thermal Modeling and Experimental Validation of a Novel Heat Sink for Helium Gas Cooled Superconducting Devices. IEEE Transactions on Applied Superconductivity, 2015, 25, 1-4.	1.7	2
107	A flocculation strategy for harvesting high lipid content microalgae biomass. , 2016, , .		2
108	Sustainable energy via biodiesel production from autotrophic and mixotrophic growth of the microalga Phaeodactylum tricornutum in compact photobioreactors. , 2016, , .		2

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109	Concurrent Solenoid Design Optimization From Thermal and Electromagnetic Standpoints. IEEE Transactions on Applied Superconductivity, 2016, 26, 1-5.	1.7	2
110	Transient Thermal Analysis of HTS DC Cables Cooled With Gaseous Helium Using a Volume Element Method. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-5.	1.7	2
111	Sustainable maximum power extraction from urban solid waste incineration. , 2017, , .		2
112	The north–south orientation of Australian termite mounds is due to the Sun and local wind: A heat transfer investigation. Journal of Applied Physics, 2020, 128, 084903.	2.5	2
113	Thermoelectric insulation for cold temperature vaccine storage. , 2021, , .		2
114	vemPEBB: Rapid PEBB Thermal Management Tool. , 2021, , .		2
115	Biomass. , 2022, , 577-628.		2
116	Thermoelectricity. , 2022, , 187-247.		2
117	Constructal Design of High-Conductivity Inserts. Understanding Complex Systems, 2013, , 91-111.	0.6	2
118	Virtual Prototyping Process For Assessment of Medium Voltage Grid-Connected Solid State Transformer Implementations. , 2021, , .		2
119	An International Component to Capstone Senior Design Projects. , 2006, , .		1
120	Modeling, Simulation and Optimization of a Solar System for Water Heating and Absorption Cooling. , 2008, , .		1
121	A Finite Element Method analysis and optimisation of a polymer electrolyte membrane fuel cell with interdigitated flow field design. International Journal of Energy Technology and Policy, 2008, 6, 112.	0.2	1
122	Control volume based thermodynamic modeling applied to the thermal management of a notional all-electric ship. , 2011, , .		1
123	Modeling and simulation of the microalgae derived hydrogen process in compact photobioreactors. , 2013, , .		1
124	Stationary compression ignition internal combustion engines (CI-ICE) CO_2 capturing via microalgae culture using a mini-photobioreactor. , 2015, , .		1
125	Experimental exergy analysis of the solar thermal system in the Off-Grid Zero Emissions Building. , 2015, , .		1
126	Parametric Analysis of a Single Alkaline Membrane Fuel Cell. Heat Transfer Engineering, 2015, 36, 963-973.	1.9	1

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127	System-level ship thermal management tool for dynamic thermal and piping network analyses in early-design stages. , 2017, , .		1
128	Innovative Applications of Advanced Solar Thermal Technologies Using Phase Change Materials. International Journal of Photoenergy, 2018, 2018, 1-2.	2.5	1
129	Aircraft Weight Reduction and Onboard Combined Power Cycle Efficiency Improvement—An Integrative Approach. , 2019, , .		1
130	All-Electric Ship Sustainable Power from Alkaline Membrane Fuel Cells. , 2019, , .		1
131	Cold Thermal Energy Storage for Reliable Ship Cooling Under Thermal Cycling and Cooling Loss. , 2019, , .		1
132	Ship HVAC System Analysis and Optimization Tool. , 2019, , .		1
133	Development of Generic Superconducting Components Library in MATLAB/Simulink for Thermal-Hydraulic Analyses. IEEE Transactions on Applied Superconductivity, 2021, 31, 1-5.	1.7	1
134	A Minimum of Thermodynamics and of the Kinetic Theory of Gases. , 2022, , 49-104.		1
135	Clean Energy From Municipal Solid Waste (MSW). , 2019, , .		1
136	The Optimal Shape for a Unit PEM Fuel Cell. , 2005, , .		1
137	OPTIMIZATION OF ELEMENTAL FLOW PASSAGES OF FLUID FLOW NETWORKS. , 2006, , .		1
138	Constructal alkaline membrane fuel cell (AMFC) design. International Journal of Heat and Technology, 2016, 34, S125-S132.	0.6	1
139	EXERGETIC OPTIMIZATION OF AN INTEGRATED MUNICIPAL SOLID WASTE INCINERATOR AND WASTEWATER TREATMENT PLANT. International Journal of Energy for A Clean Environment, 2022, 23, 95-108.	1.1	1
140	Enhancing Senior Capstone Design Course through International and Multidisciplinary Projects. , 0, , .		1
141	Optimal sustainable fuel cell stack with cellulosic alkaline membranes. Fuel Cells, 2022, 22, 301-309.	2.4	1
142	Constructal Optimization of the Coupling Between a Hot and a Cold Stream for Power and Refrigeration. , 2004, , 263.		0
143	A Methodology for the Determination of the Light Distribution Profile of a Micro-Algal Photobioreactor. , 2011, , .		0
144	Optimization of an Integrated SOFC-Fuel Processing System for Aircraft Propulsion. , 2011, , .		0

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145	Optimization of an Integrated SOFC-Fuel Processing System for Aircraft Propulsion. Journal of Fuel Cell Science and Technology, 2012, 9, .	0.8	0
146	Volume Element Model for Modeling, Simulation, and Optimization of Parabolic Trough Solar Collectors. , 2017, , .		0
147	Multiphysics model of a notional all-electric ship railgun â€" Model development and application. , 2017, , .		0
148	Modeling and Simulation of a Solid Waste Incineration Sustainable Energy System. , 2018, , .		0
149	Sustainable Alkaline Membrane Fuel Cell (SAMFC). , 2018, , .		0
150	Experimental Calibration of a Biohydrogen Production Estimation Model. , 2018, , .		0
151	Experimental adjustment and validation of a generalized solarâ€assisted cogeneration system model. International Journal of Energy Research, 2019, 43, 5319-5332.	4.5	0
152	Storage of Energy. , 2022, , 855-896.		0
153	Ocean Thermal Energy Converters. , 2022, , 161-185.		0
154	Solar Radiation. , 2022, , 519-576.		0
155	AMTEC. , 2022, , 293-308.		0
156	Photovoltaic Converters. , 2022, , 629-718.		0
157	Radio-Noise Generators. , 2022, , 309-313.		0
158	Mechanical Heat Engines. , 2022, , 105-160.		0
159	Thermionics. , 2022, , 249-291.		0
160	Ocean Engines. , 2022, , 795-829.		0
161	Hydrogen Storage. , 2022, , 471-516.		0
162	Fuel Cells Constructal Optimization and Research Perspectives. , 2004, , .		0

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163	Maximum Power Extraction From a Hot Stream in the Presence of Phase Change Under Limiting Collecting Temperatures. , 2004, , .		0
164	A Higher Resolution, Local Thermal Analysis of an AC Armature Winding of a High Temperature Superconductor Motor. , 2006, , .		0
165	Experimental Validation of a Simplified PEMFC Simulation Model. , 2009, , .		0
166	THERMAL ANALYSIS OF POWER ELECTRONIC BUILDING BLOCK-BASED CONVERTER ARRAY. , 2018, , .		0
167	THE HARVESTING OF HIGH LIPID CONTENT MICROALGAE BIOMASS THROUGH A FLOCCULATION STRATEGY. Revista De Engenharia Térmica, 2018, 17, 41.	0.2	0
168	Experimental Calibration of a Biohydrogen Production Estimation Model. Journal of Verification, Validation and Uncertainty Quantification, 2019, 4, .	0.4	0
169	A Hybrid Absorption System With Generator Level Optical Control and Variable Flow Rate. , 2019, , .		0
170	Hydrogen and Compounds With Biological Activity From Microalgae. , 2019, , .		0
171	SUSTAINABLE ALKALINE MEMBRANE FUEL CELL. Revista De Engenharia Térmica, 2020, 19, 07.	0.2	0
172	MICROALGAE AS SOURCE OF RENEWABLE ENERGY: A REVIEW. , 2021, , .		0
173	A MATHEMATICAL MODEL OF AN ABSORPTION REFRIGERATION SYSTEM FOR A REFRIGERATED STORAGE FOR FISHING BOATS.. , 2021, , .		0
174	HYDROGEN GENERATION BY ALUMINUM OXIDATION IN ALKALINE SOLUTION. , 2021, , .		0
175	Electronic packaging cabinets simplified modeling, simulation, and experimental validation for systems engineering. Simulation, 0, , 003754972110699.	1.8	0