

Ahmed F Ghoniem

List of Publications by Citations

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

89
papers

3,584
citations

30
h-index

57
g-index

90
ext. papers

4,039
ext. citations

5.8
avg, IF

5.91
L-index

#	Paper	IF	Citations
89	Oxy-fuel combustion of pulverized coal: Characterization, fundamentals, stabilization and CFD modeling. <i>Progress in Energy and Combustion Science</i> , 2012 , 38, 156-214	33.6	690
88	Needs, resources and climate change: Clean and efficient conversion technologies. <i>Progress in Energy and Combustion Science</i> , 2011 , 37, 15-51	33.6	203
87	Analysis of oxy-fuel combustion power cycle utilizing a pressurized coal combustor. <i>Energy</i> , 2009 , 34, 1332-1340	7.9	181
86	Grid-free simulation of diffusion using random walk methods. <i>Journal of Computational Physics</i> , 1985 , 61, 1-37	4.1	95
85	Operating pressure dependence of the pressurized oxy-fuel combustion power cycle. <i>Energy</i> , 2010 , 35, 5391-5399	7.9	94
84	Large eddy simulations of coal gasification in an entrained flow gasifier. <i>Fuel</i> , 2013 , 104, 664-680	7.1	93
83	Numerical study of a three-dimensional vortex method. <i>Journal of Computational Physics</i> , 1990 , 86, 75-106	4.1	91
82	Simulation of Oxy-Coal Combustion in a 100 kWth Test Facility Using RANS and LES: A Validation Study. <i>Energy & Fuels</i> , 2012 , 26, 4783-4798	4.1	89
81	Multiphysics Simulations of Entrained Flow Gasification. Part II: Constructing and Validating the Overall Model. <i>Energy & Fuels</i> , 2012 , 26, 464-479	4.1	84
80	Self-sustained oscillations and vortex shedding in backward-facing step flows: Simulation and linear instability analysis. <i>Physics of Fluids</i> , 2004 , 16, 3361-3373	4.4	84
79	Effects of the free-stream density ratio on free and forced spatially developing shear layers. <i>Physics of Fluids</i> , 1995 , 7, 2036-2051	4.4	78
78	A dynamic reduced order model for simulating entrained flow gasifiers. <i>Fuel</i> , 2012 , 91, 61-80	7.1	67
77	Validation study of vortex methods. <i>Journal of Computational Physics</i> , 1988 , 74, 283-317	4.1	67
76	Vortex simulation of laminar recirculating flow. <i>Journal of Computational Physics</i> , 1987 , 68, 346-377	4.1	61
75	Next-generation HVAC: Prospects for and limitations of desiccant and membrane-based dehumidification and cooling. <i>Applied Energy</i> , 2017 , 200, 330-346	10.7	57
74	Modeling the slag behavior in three dimensional CFD simulation of a vertically-oriented oxy-coal combustor. <i>Fuel Processing Technology</i> , 2013 , 112, 106-117	7.2	54
73	Numerical study of the dynamics of a forced shear layer. <i>Physics of Fluids</i> , 1987 , 30, 706		53

72	Numerical simulation of the convective instability in a dump combustor. <i>AIAA Journal</i> , 1991 , 29, 911-919	2.1	49
71	Vorticity structure and evolution in a transverse jet. <i>Journal of Fluid Mechanics</i> , 2007 , 575, 267-305	3.7	46
70	Multiphysics Simulations of Entrained Flow Gasification. Part I: Validating the Nonreacting Flow Solver and the Particle Turbulent Dispersion Model. <i>Energy & Fuels</i> , 2012 , 26, 451-463	4.1	44
69	Mixed ionic-electronic conducting (MIEC) membranes for thermochemical reduction of CO ₂ : A review. <i>Progress in Energy and Combustion Science</i> , 2019 , 74, 1-30	33.6	43
68	Shear flow-driven combustion instability: Evidence, simulation, and modeling. <i>Proceedings of the Combustion Institute</i> , 2002 , 29, 53-60	5.9	43
67	On the phase between pressure and heat release fluctuations for propane/hydrogen flames and its role in mode transitions. <i>Combustion and Flame</i> , 2013 , 160, 2827-2842	5.3	42
66	K-means clustering for optimal partitioning and dynamic load balancing of parallel hierarchical N-body simulations. <i>Journal of Computational Physics</i> , 2005 , 207, 493-528	4.1	42
65	Rotary Bed Reactor for Chemical-Looping Combustion with Carbon Capture. Part 1: Reactor Design and Model Development. <i>Energy & Fuels</i> , 2013 , 27, 327-343	4.1	37
64	Numerical simulation of a thermally stratified shear layer using the vortex element method. <i>Journal of Computational Physics</i> , 1988 , 79, 135-166	4.1	37
63	Design of a rotary reactor for chemical-looping combustion. Part 1: Fundamentals and design methodology. <i>Fuel</i> , 2014 , 121, 327-343	7.1	34
62	An Adaptive Random Pore Model for Multimodal Pore Structure Evolution with Application to Char Gasification. <i>Energy & Fuels</i> , 2011 , 25, 1423-1437	4.1	34
61	Three-dimensional vortex simulation of rollup and entrainment in a shear layer. <i>Journal of Computational Physics</i> , 1991 , 97, 172-223	4.1	33
60	Prediction and Validation of Major Gas and Tar Species from a Reactor Network Model of Air-Blown Fluidized Bed Biomass Gasification. <i>Energy & Fuels</i> , 2015 , 29, 2437-2452	4.1	32
59	Techno-economic assessment of two novel feeding systems for a dry-feed gasifier in an IGCC plant with Pd-membranes for CO ₂ capture. <i>International Journal of Greenhouse Gas Control</i> , 2014 , 25, 62-78	4.2	30
58	Impact of fuel composition on the recirculation zone structure and its role in lean premixed flame anchoring. <i>Proceedings of the Combustion Institute</i> , 2015 , 35, 1493-1500	5.9	29
57	On the characteristic flow and flame times for scaling oxy and air flame stabilization modes in premixed swirl combustion. <i>Proceedings of the Combustion Institute</i> , 2017 , 36, 3799-3807	5.9	28
56	Toward enhanced hydrogen generation from water using oxygen permeating LCF membranes. <i>Physical Chemistry Chemical Physics</i> , 2015 , 17, 10093-107	3.6	27
55	Enhancing co-production of H ₂ and syngas via water splitting and POM on surface-modified oxygen permeable membranes. <i>AIChE Journal</i> , 2016 , 62, 4427-4435	3.6	27

54	Surface oxygen vacancy and oxygen permeation flux limits of perovskite ion transport membranes. <i>Journal of Membrane Science</i> , 2015 , 489, 248-257	9.6	27
53	Contributions of the wall boundary layer to the formation of the counter-rotating vortex pair in transverse jets. <i>Journal of Fluid Mechanics</i> , 2011 , 676, 461-490	3.7	27
52	Modeling and parametric analysis of nitrogen and sulfur oxide removal from oxy-combustion flue gas using a single column absorber. <i>Fuel</i> , 2015 , 160, 178-188	7.1	26
51	Modeling of Biomass Char Gasification, Combustion, and Attrition Kinetics in Fluidized Beds. <i>Energy & Fuels</i> , 2016 , 30, 360-376	4.1	26
50	Development of a three-dimensional computational slag flow model for coal combustion and gasification. <i>Fuel</i> , 2013 , 113, 357-366	7.1	26
49	Two-dimensional simulations of steady perforated-plate stabilized premixed flames. <i>Combustion Theory and Modelling</i> , 2010 , 14, 125-154	1.5	26
48	Interactions between oxygen permeation and homogeneous-phase fuel conversion on the sweep side of an ion transport membrane. <i>Journal of Membrane Science</i> , 2013 , 428, 309-322	9.6	25
47	The structure of swirl-stabilized turbulent premixed CH ₄ /air and CH ₄ /O ₂ /CO ₂ flames and mechanisms of intense burning of oxy-flames. <i>Combustion and Flame</i> , 2016 , 174, 111-119	5.3	25
46	Correspondence Between Stable Flame Macrostructure and Thermo-acoustic Instability in Premixed Swirl-Stabilized Turbulent Combustion. <i>Journal of Engineering for Gas Turbines and Power</i> , 2015 , 137,	1.7	24
45	Modified interpolation kernels for treating diffusion and remeshing in vortex methods. <i>Journal of Computational Physics</i> , 2006 , 213, 239-263	4.1	24
44	Three-Dimensional Vortex Simulation of Time Dependent Incompressible Internal Viscous Flows. <i>Journal of Computational Physics</i> , 1997 , 134, 75-95	4.1	23
43	In situ catalyst exsolution on perovskite oxides for the production of CO and synthesis gas in ceramic membrane reactors. <i>Sustainable Energy and Fuels</i> , 2019 , 3, 2347-2355	5.8	22
42	Hydrogen-assisted Carbon Dioxide Thermochemical Reduction on La Ca FeO Membranes: A Kinetics Study. <i>ChemSusChem</i> , 2018 , 11, 483-493	8.3	22
41	Steam-air blown bubbling fluidized bed biomass gasification (BFBBG): Multi-scale models and experimental validation. <i>AIChE Journal</i> , 2017 , 63, 1543-1565	3.6	21
40	Modeling of indirect carbon fuel cell systems with steam and dry gasification. <i>Journal of Power Sources</i> , 2016 , 313, 51-64	8.9	21
39	The influence of gasification reactions on char consumption under oxy-combustion conditions: Effects of particle trajectory and conversion. <i>Proceedings of the Combustion Institute</i> , 2013 , 34, 3471-3478	5.9	21
38	A computational model for the rise and dispersion of wind-blown, buoyancy-driven plumes in a neutrally stratified atmosphere. <i>Atmospheric Environment Part A General Topics</i> , 1993 , 27, 2295-2311		21
37	Dispersion and deposition of smoke plumes generated in massive fires. <i>Journal of Hazardous Materials</i> , 1993 , 33, 275-293	12.8	20

36	Rotary Bed Reactor for Chemical-Looping Combustion with Carbon Capture. Part 2: Base Case and Sensitivity Analysis. <i>Energy & Fuels</i> , 2013 , 27, 344-359	4.1	19
35	Vortex simulation of a three-dimensional reacting shear layer with infinite-rate kinetics. <i>AIAA Journal</i> , 1992 , 30, 105-116	2.1	19
34	The three-dimensional structure of periodic vorticity layers under non-symmetric conditions. <i>Journal of Fluid Mechanics</i> , 1992 , 243, 353	3.7	19
33	Gas oxy combustion and conversion technologies for low carbon energy: Fundamentals, modeling and reactors. <i>Proceedings of the Combustion Institute</i> , 2019 , 37, 33-56	5.9	18
32	Simulation of rollup and mixing in rayleigh-taylor flow using the transport-element method. <i>Journal of Computational Physics</i> , 1992 , 99, 1-27	4.1	18
31	Analysis of thermally coupled chemical looping combustion-based power plants with carbon capture. <i>International Journal of Greenhouse Gas Control</i> , 2015 , 35, 56-70	4.2	17
30	Laminar oxy-fuel diffusion flame supported by an oxygen-permeable-ion-transport membrane. <i>Combustion and Flame</i> , 2013 , 160, 704-717	5.3	17
29	Impact of the Flame-Holder Heat-Transfer Characteristics on the Onset of Combustion Instability. <i>Combustion Science and Technology</i> , 2013 , 185, 1541-1567	1.5	17
28	Modeling CO ₂ Chemical Effects on CO Formation in Oxy-Fuel Diffusion Flames Using Detailed, Quasi-Global, and Global Reaction Mechanisms. <i>Combustion Science and Technology</i> , 2014 , 186, 829-848	1.5	17
27	Effect of Two-Dimensional Shear Layer Dynamics on Mixing and Combustion at Low Heat Release. <i>Combustion Science and Technology</i> , 1990 , 72, 79-99	1.5	16
26	Lagrangian simulation of a reacting mixing layer at low heat release. <i>AIAA Journal</i> , 1988 , 26, 690-697	2.1	15
25	A computational model for the rise and dispersion of wind-blown, buoyancy-driven plumes in a linearly stratified atmosphere. <i>Atmospheric Environment</i> , 1994 , 28, 3005-3018	5.3	14
24	Effect of Reynolds number on the structure of recirculating flow. <i>AIAA Journal</i> , 1987 , 25, 168-171	2.1	14
23	Life cycle assessment of rice husk torrefaction and prospects for decentralized facilities at rice mills. <i>Journal of Cleaner Production</i> , 2020 , 275, 123177	10.3	14
22	High-performance oxygen transport membrane reactors integrated with IGCC for carbon capture. <i>AIChE Journal</i> , 2020 , 66, e16427	3.6	13
21	A fast 3D particle method for the simulation of buoyant flow. <i>Journal of Computational Physics</i> , 2008 , 227, 9063-9090	4.1	11
20	Highly Durable C ₂ Hydrocarbon Production via the Oxidative Coupling of Methane Using a BaFe _{0.9} Zr _{0.1} O ₃ Mixed Ionic and Electronic Conducting Membrane and La ₂ O ₃ Catalyst. <i>ACS Catalysis</i> , 2021 , 11, 3638-3661	13.1	11
19	Simulation of the Nonreacting Flow in a Bluff-Body Burner; Effect of the Diameter Ratio. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 1993 , 115, 474-484	2.1	10

18	Vortex simulation of the intake flow in a planar piston-chamber device. <i>International Journal for Numerical Methods in Fluids</i> , 1991 , 12, 237-260	1.9	9
17	Formation and Control of Sulfur Oxides in Sour Gas Oxy-Combustion: Prediction Using a Reactor Network Model. <i>Energy & Fuels</i> , 2015 , 29, 7670-7680	4.1	8
16	Oxidative Dehydrogenation of Ethane to Ethylene in an Oxygen-Ion-Transport-Membrane Reactor: A Proposed Design for Process Intensification. <i>Industrial & Engineering Chemistry Research</i> , 2019 , 58, 7989-7997	3.9	7
15	CO ₂ reduction and methane partial oxidation on surface catalyzed La _{0.9} Ca _{0.1} FeO _{3-δ} -oxygen transport membranes. <i>Proceedings of the Combustion Institute</i> , 2019 , 37, 5517-5524	5.9	7
14	BEM SOLUTION OF THE 3D INTERNAL NEUMANN PROBLEM AND A REGULARIZED FORMULATION FOR THE POTENTIAL VELOCITY GRADIENTS. <i>International Journal for Numerical Methods in Fluids</i> , 1997 , 24, 81-100	1.9	7
13	Lagrangian simulation of a thin non-premixed flame in the field of an asymmetric layer. <i>Combustion and Flame</i> , 1996 , 106, 41-61	5.3	7
12	A high-efficiency novel IGCC-OTM carbon capture power plant design. <i>Journal of Advanced Manufacturing and Processing</i> , 2020 , 2,	2.7	6
11	CFD Simulation of Entrained Flow Gasification With Improved Devolatilization and Char Consumption Submodels 2009 ,		6
10	Simulation of the Piston Driven Flow Inside a Cylinder With an Eccentric Port. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 1998 , 120, 319-326	2.1	4
9	A computational model for the rise and dispersion of wind-blown, buoyancy-driven plumesII. Penetration of atmospheric inversion. <i>Atmospheric Environment</i> , 1994 , 28, 3019-3032	5.3	4
8	Oxy-combustion of coal in liquid-antimony-anode solid oxide fuel cell system. <i>Proceedings of the Combustion Institute</i> , 2019 , 37, 2841-2848	5.9	4
7	Response of Premixed Stoichiometric Oxy Flames to Strain: Role of Chemistry and Transport. <i>Journal of Propulsion and Power</i> , 2018 , 34, 825-835	1.8	3
6	The coupling effect of gas-phase chemistry and surface reactions on oxygen permeation and fuel conversion in ITM reactors. <i>Journal of Membrane Science</i> , 2015 , 488, 1-12	9.6	3
5	3D Vortex Simulation of Intake Flow in a Port-Cylinder with a Valve Seat and a Moving Piston 1996 ,		2
4	The Impact of Critical Operational Parameters on the Performance of the Aluminum Anode Baking Furnace. <i>Journal of Energy Resources Technology, Transactions of the ASME</i> , 2021 , 143,	2.6	2
3	Techno-Economic Evaluation of Pressurized Oxy-Fuel Combustion Systems 2010 ,		1
2	Inference of reaction kinetics for supercritical water heavy oil upgrading with a two-phase stirred reactor model. <i>AICHE Journal</i> ,e17488	3.6	0
1	Impact of curvature on the kinematic response of small flames. <i>Journal of Engineering Mathematics</i> , 2012 , 74, 37-52	1.2	

