Andres Jaramillo-Botero

List of Publications by Year
in descending order

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45 papers	1,107 citations	471509 17 h-index	414414 32 g-index
46 all docs	46 docs citations	46 times ranked	1645 citing authors

#	Article	IF	Citations
1	General Multiobjective Force Field Optimization Framework, with Application to Reactive Force Fields for Silicon Carbide. Journal of Chemical Theory and Computation, 2014, 10, 1426-1439.	5.3	107
2	A rapid-response ultrasensitive biosensor for influenza virus detection using antibody modified boron-doped diamond. Scientific Reports, 2017, 7, 15707.	3.3	107
3	Elucidation of the dynamics for hot-spot initiation at nonuniform interfaces of highly shocked materials. Physical Review B, 2011, 84, .	3.2	85
4	Highly Shocked Polymer Bonded Explosives at a Nonplanar Interface: Hot-Spot Formation Leading to Detonation. Journal of Physical Chemistry C, 2013, 117, 26551-26561.	3.1	83
5	Development of a ReaxFF Reactive Force Field for Ettringite and Study of its Mechanical Failure Modes from Reactive Dynamics Simulations. Journal of Physical Chemistry A, 2012, 116, 3918-3925.	2.5	79
6	Adaptive Accelerated ReaxFF Reactive Dynamics with Validation from Simulating Hydrogen Combustion. Journal of the American Chemical Society, 2014, 136, 9434-9442.	13.7	53
7	The atomistic origin of the extraordinary oxygen reduction activity of Pt₃Ni₇fuel cell catalysts. Chemical Science, 2015, 6, 3915-3925.	7.4	53
8	Thermodynamic Simulation of the RDXâ€“Aluminum Interface Using ReaxFF Molecular Dynamics. Journal of Physical Chemistry C, 2017, 121, 14597-14610.	3.1	46
9	Largeâ€scale, longâ€term nonadiabatic electron molecular dynamics for describing material properties and phenomena in extreme environments. Journal of Computational Chemistry, 2011, 32, 497-512.	3.3	43
10	Predicted Optimum Composition for the Glass-Forming Ability of Bulk Amorphous Alloys: Application to Cuâ€“Zrâ€“Al. Journal of Physical Chemistry Letters, 2012, 3, 3143-3148.	4.6	33
11	Understanding Hypervelocity Sampling of Biosignatures in Space Missions. Astrobiology, 2021, 21, 421-442.	3.0	31
12	Nonadiabatic Study of Dynamic Electronic Effects during Brittle Fracture of Silicon. Physical Review Letters, 2012, 108, 045501.	7.8	28
13	Reaction Pathways of GaN (0001) Growth from Trimethylgallium and Ammonia versus Triethylgallium and Hydrazine Using First Principle Calculations. Journal of Physical Chemistry C, 2015, 119, 4095-4103.	3.1	24
14	Hypervelocity Impact Effect of Molecules from Enceladusâ€™ Plume and Titanâ€™s Upper Atmosphere on NASAâ€™s Cassini Spectrometer from Reactive Dynamics Simulation. Physical Review Letters, 2012, 109, 213201.	7.8	23
15	Estimation of Nitrogen in Rice Crops from UAV-Captured Images. Remote Sensing, 2020, 12, 3396.	4.0	23
16	Performance of electrochemical immunoassays for clinical diagnostics of SARS-CoV-2 based on selective nucleocapsid N protein detection: Boron-doped diamond, gold and glassy carbon evaluation. Biosensors and Bioelectronics, 2022, 209, 114222.	10.1	23
17	Predicted detonation properties at the Chapmanâ€“Jouguet state for proposed energetic materials (MTO) Tj ETQq1 1 0.784314 rgBT Chemical Physics, 2018, 20, 3953-3969.	2.8	21
18	ROBOMOSP. IEEE Robotics and Automation Magazine, 2006, 13, 62-73.	2.0	18

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19	First-Principles Based Approaches to Nano-Mechanical and Biomimetic Characterization of Polymer-Based Hydrogel Networks for Cartilage Scaffold-Supported Therapies. Journal of Computational and Theoretical Nanoscience, 2010, 7, 1238-1256.	0.4	15
20	SenSARS: A Low-Cost Portable Electrochemical System for Ultra-Sensitive, Near Real-Time, Diagnostics of SARS-CoV-2 Infections. IEEE Transactions on Instrumentation and Measurement, 2021, 70, 1-10.	4.7	15
21	All-Armchair Graphene Nanoribbon Field-Effect Uridine Diphosphate Glucose Sensor: First-Principles In-Silico Design and Characterization. IEEE Sensors Journal, 2019, 19, 3975-3983.	4.7	14
22	Reviewâ€"Bio-Nanosensors: Fundamentals and Recent Applications. Journal of the Electrochemical Society, 2021, 168, 107506.	2.9	14
23	Electron dynamics of shocked polyethylene crystal. Physical Review B, 2012, 85, .	3.2	13
24	A novel NIR-image segmentation method for the precise estimation of above-ground biomass in rice crops. PLoS ONE, 2020, 15, e0239591.	2.5	13
25	Ultraviolet surface plasmon-mediated low temperature hydrazine decomposition. Applied Physics Letters, 2015, 106, .	3.3	11
26	Interfacial Interactions in a Model Composite Material: Insights into Î± â†' Î² Phase Transition of the Magnetite Reinforced Poly(Vinylidene Fluoride) Systems by All-Atom Molecular Dynamics Simulation. Journal of Physical Chemistry C, 2021, 125, 21635-21644.	3.1	11
27	Novel algorithms for massively parallel, long-term, simulation of molecular dynamics systems. Advances in Engineering Software, 1998, 29, 441-450.	3.8	10
28	Non-adiabatic dynamics modeling framework for materials in extreme conditions. Mechanics of Materials, 2015, 90, 243-252.	3.2	10
29	Reactive Molecular Dynamics Simulations to Understand Mechanical Response of Thaumasite under Temperature and Strain Rate Effects. Journal of Physical Chemistry A, 2017, 121, 4688-4697.	2.5	10
30	ZnO/PDMS nanocomposite generator: Interphase influence in the nanocomposite electro-mechanical properties and output voltage. Energy Reports, 2021, 7, 896-903.	5.1	10
31	First-Principles-Based Multiscale, Multiparadigm Molecular Mechanics and Dynamics Methods for Describing Complex Chemical Processes. Topics in Current Chemistry, 2011, 307, 1-42.	4.0	9
32	Large-scale Molecular Simulations of Hypervelocity Impact of Materials. Procedia Engineering, 2013, 58, 167-176.	1.2	9
33	Effect of surface oxidation on the electronic transport properties of phosphorene gas sensors: a computational study. RSC Advances, 2020, 10, 6893-6899.	3.6	8
34	A Unified Formulation for Massively Parallel Rigid Multibody Dynamics of O(log2n) Computational Complexity. Journal of Parallel and Distributed Computing, 2002, 62, 1001-1020.	4.1	7
35	First principles-based multiscale atomistic methods for input into first principles nonequilibrium transport across interfaces. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 18193-18201.	7.1	7
36	Understanding the Origin of Enhanced Piezoelectric Response in PVDF Matrices with Embedded ZnO Nanoparticles, from Polarizable Molecular Dynamics Simulations. Journal of Chemical Information and Modeling, 2021, 61, 4537-4543.	5.4	7

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37	Partially-oxidized phosphorene sensor for the detection of sub-nano molar concentrations of nitric oxide: a first-principles study. Physical Chemistry Chemical Physics, 2019, 21, 19083-19091.	2.8	6
38	Electrochemical modified electrode with bismuth film for ultrasensitive determination of aluminum (iii). Journal of Electroanalytical Chemistry, 2022, 919, 116552.	3.8	6
39	CCl Radicals As a Carbon Source for Diamond Thin Film Deposition. Journal of Physical Chemistry Letters, 2014, 5, 481-484.	4.6	5
40	Ligand-Modified Boron-Doped Diamond Surface: DFT Insights into the Electronic Properties of Biofunctionalization. Materials, 2019, 12, 2910.	2.9	4
41	The Mass Analyzer for Real-time Investigation of Neutrals at Europa (MARINE). , 2015, , .		3
42	Coarse-grained force-field for large scale molecular dynamics simulations of polyacrylamide and polyacrylamide-gels based on quantum mechanics. Physical Chemistry Chemical Physics, 2021, 23, 10909-10918.	2.8	3
43	A Fast Algorithm for Massively Parallel, Long-Term, Simulation of Complex Molecular Dynamics Systems. Advances in Parallel Computing, 1998, , 505-515.	0.3	1
44	Multiscale, Multiparadigm Modeling for Nanosystems Characterization and Design. The Electrical Engineering Handbook, 2012, , 935-982.	0.2	0
45	Four-terminal graphene nanoribbon sensor devices: In-silico design and characterization. Computational Materials Science, 2021, 196, 110506.	3.0	0