

Sorin Bastea

List of Publications by Year in descending order

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81
papers

1,685
citations

279701

23
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330025

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docs citations

83
times ranked

1433
citing authors

#	ARTICLE	IF	CITATIONS
1	High-Pressure Investigation of 2,4,6-Trinitro-3-bromoanisole (TNBA): Structural Determination and Piezochromism. <i>Journal of Physical Chemistry C</i> , 2022, 126, 1176-1187.	1.5	5
2	Chemistry-mediated Ostwald ripening in carbon-rich C/O systems at extreme conditions. <i>Nature Communications</i> , 2022, 13, 1424.	5.8	4
3	Machine Learning a Solution for Reactive Atomistic Simulations of Energetic Materials. <i>Propellants, Explosives, Pyrotechnics</i> , 2022, 47, .	1.0	4
4	Investigating 3,4-bis(3-nitrofurazan-4-yl)furoxan detonation with a rapidly tuned density functional tight binding model. <i>Journal of Chemical Physics</i> , 2021, 154, 164115.	1.2	12
5	Submicrosecond Aggregation during Detonation Synthesis of Nanodiamond. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 5286-5293.	2.1	21
6	Modeling Hot Spot Experiments on Shocked Octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine. <i>Propellants, Explosives, Pyrotechnics</i> , 2020, 45, 330-337.	1.0	6
7	Active learning for robust, high-complexity reactive atomistic simulations. <i>Journal of Chemical Physics</i> , 2020, 153, 134117.	1.2	21
8	Many-body reactive force field development for carbon condensation in C/O systems under extreme conditions. <i>Journal of Chemical Physics</i> , 2020, 153, 054103.	1.2	17
9	Detonation-induced transformation of graphite to hexagonal diamond. <i>Physical Review B</i> , 2020, 102, .	1.1	13
10	Shock Hugoniot measurements of single-crystal 1,3,5-triamino-2,4,6-trinitrobenzene (TATB) compressed to 83%GPa. <i>Journal of Applied Physics</i> , 2020, 127, .	1.1	17
11	Ultrafast shock synthesis of nanocarbon from a liquid precursor. <i>Nature Communications</i> , 2020, 11, 353.	5.8	33
12	Observation of Variations in Condensed Carbon Morphology Dependent on Composition B Detonation Conditions. <i>Propellants, Explosives, Pyrotechnics</i> , 2020, 45, 347-355.	1.0	11
13	Hot spot criticality in shocked HMX over a range of pore sizes and pressures. , 2020, , .		1
14	High-pressure isothermal equation of state of composite materials: A case study of LX-17 polymer bonded explosive. <i>Applied Physics Letters</i> , 2019, 115, 051902.	1.5	4
15	Resolving Detonation Nanodiamond Size Evolution and Morphology at Sub-Microsecond Timescales during High-Explosive Detonations. <i>Journal of Physical Chemistry C</i> , 2019, 123, 19153-19164.	1.5	18
16	Detonation synthesis of carbon nano-onions via liquid carbon condensation. <i>Nature Communications</i> , 2019, 10, 3819.	5.8	50
17	Pressure-induced phase transition in 1,3,5-triamino-2,4,6-trinitrobenzene (TATB). <i>Applied Physics Letters</i> , 2019, 114, .	1.5	34
18	Preparation and optimization of a diverse workload for a large-scale heterogeneous system. , 2019, , .		3

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19	An experimental characterization of condensed phase soot from overdriven detonation of composition B. AIP Conference Proceedings, 2018, , .	0.3	2
20	Ultrafast Shock-Induced Reactions in Pentaerythritol Tetranitrate Thin Films. Journal of Physical Chemistry A, 2018, 122, 8101-8106.	1.1	7
21	Reactive flow modeling of the polymer bonded explosive LX-17 double shock experiments. Journal of Applied Physics, 2018, 124, .	1.1	3
22	Modeling The Effects of Shock Pressure and Pore Morphology on Hot Spot Mechanisms in HMX. Propellants, Explosives, Pyrotechnics, 2018, 43, 805-817.	1.0	68
23	Effects of pressure on the structure and lattice dynamics of ammonium perchlorate: A combined experimental and theoretical study. Journal of Chemical Physics, 2018, 149, 034501.	1.2	6
24	A study of tantalum pentoxide Ta ₂ O ₅ structures up to 28â€‰GPa. Journal of Applied Physics, 2017, 121, 175901.	1.1	3
25	Nanocarbon condensation in detonation. Scientific Reports, 2017, 7, 42151.	1.6	35
26	Effects of high shock pressures and pore morphology on hot spot mechanisms in HMX. AIP Conference Proceedings, 2017, , .	0.3	20
27	Measurement of carbon condensates using small-angle x-ray scattering during detonation of high explosives. AIP Conference Proceedings, 2017, , .	0.3	15
28	The EOS of Î±-NTO through high-pressure microscopy-interferometry measurements. AIP Conference Proceedings, 2017, , .	0.3	0
29	High-pressure X-ray diffraction, Raman and computational studies of MgCl ₂ up to 1 Mbar: Extensive pressure stability of the Î²-MgCl ₂ layered structure. Scientific Reports, 2016, 6, 30631.	1.6	15
30	The equation of state of 5-nitro-2,4-dihydro-1,2,4-triazol-3-one determined via in-situ optical microscopy and interferometry measurements. Journal of Applied Physics, 2016, 119, 135904.	1.1	10
31	Measurement of carbon condensates using small-angle x-ray scattering during detonation of the high explosive hexanitrostilbene. Journal of Applied Physics, 2015, 117, .	1.1	55
32	Equations of state of anhydrous AlF ₃ and AlI ₃ : Modeling of extreme condition halide chemistry. Journal of Chemical Physics, 2015, 142, 214506.	1.2	6
33	A simulation assessment of the thermodynamics of dense ion-dipole mixtures with polarization. Journal of Chemical Physics, 2014, 141, 044507.	1.2	3
34	Sub-100 ps laser-driven dynamic compression of solid deuterium with a $\lambda = 400$ nm laser pulse. Applied Physics Letters, 2014, 105, .	1.5	7
35	Ultrafast Shock Compression of an Oxygen-Balanced Mixture of Nitromethane and Hydrogen Peroxide. Journal of Physical Chemistry A, 2014, 118, 6148-6153.	1.1	10
36	Nitrogen Oxides As a Chemistry Trap in Detonating Oxygen-Rich Materials. Journal of Physical Chemistry A, 2014, 118, 2897-2903.	1.1	18

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37	Experimental Measurement of Speeds of Sound in Dense Supercritical Carbon Monoxide and Development of a High-Pressure, High-Temperature Equation of State. Journal of Physical Chemistry B, 2013, 117, 5675-5682.	1.2	2
38	Ultrafast Shock Initiation of Exothermic Chemistry in Hydrogen Peroxide. Journal of Physical Chemistry A, 2013, 117, 13051-13058.	1.1	33
39	A pressure-driven flow analysis of gas trapping behavior in nanocomposite thermite films. Journal of Applied Physics, 2013, 114, .	1.1	13
40	Shock compression of precompressed deuterium. , 2012, , .		0
41	Aggregation kinetics of detonation nanocarbon. Applied Physics Letters, 2012, 100, 214106.	1.5	20
42	Chemical Equilibrium Detonation. , 2012, , 1-31.		32
43	Prospects for achieving high dynamic compression with low energy. Applied Physics Letters, 2012, 101, .	1.5	12
44	Thermodynamics and diffusion in size-symmetric and asymmetric dense electrolytes. Journal of Chemical Physics, 2011, 135, 084515.	1.2	12
45	Photoacoustically Measured Speeds of Sound of Liquid HBO ₂ : Semi-Empirical Modeling of Boron-Containing Explosives. Journal of Physical Chemistry Letters, 2010, 1, 2982-2988.	2.1	2
46	Ultrafast observation of shocked states in a precompressed material. Journal of Applied Physics, 2010, 108, 023511.	1.1	42
47	Diffusion and conduction in a salt-free colloidal suspension via molecular dynamics simulations. Soft Matter, 2010, 6, 4223.	1.2	6
48	High pressure phase transformation in iron under fast compression. Applied Physics Letters, 2009, 95, .	1.5	20
49	Catalytic behaviour of dense hot water. Nature Chemistry, 2009, 1, 57-62.	6.6	95
50	Nitrous acid under high temperature and pressure – From atomistic simulations to equation of state for thermochemical modeling. Chemical Physics Letters, 2009, 468, 197-200.	1.2	3
51	Dissociative melting of ice VII at high pressure. Journal of Chemical Physics, 2009, 130, 124514.	1.2	45
52	Exp6-polar thermodynamics of dense supercritical water. Journal of Chemical Physics, 2008, 128, 174502.	1.2	24
53	Transport in a highly asymmetric binary fluid mixture. Physical Review E, 2007, 75, 031201.	0.8	10
54	Freezing kinetics in overcompressed water. Physical Review B, 2007, 75, .	1.1	34

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55	Phase separation in H ₂ O:N ₂ mixture: Molecular dynamics simulations using atomistic force fields. <i>Journal of Chemical Physics</i> , 2007, 126, 044510.	1.2	12
56	Molecular Dynamics Investigation of Adhesion between TATB Surfaces and Amorphous Fluoropolymers. <i>Macromolecules</i> , 2007, 40, 3422-3428.	2.2	45
57	10.1007/s10955-006-9040-z. <i>Journal of Statistical Physics</i> , 2006, 124, 445-483.	0.5	5
58	Aggregation Kinetics in a Model Colloidal Suspension. <i>Physical Review Letters</i> , 2006, 96, 028305.	2.9	12
59	Shock wave propagation in dissociating low-Z liquids: D2. <i>Journal of Chemical Physics</i> , 2005, 122, 124503.	1.2	11
60	Kinetics of propagating phase transformation in compressed bismuth. <i>Physical Review B</i> , 2005, 71, .	1.1	21
61	Viscosity and mutual diffusion in strongly asymmetric binary ionic mixtures. <i>Physical Review E</i> , 2005, 71, 056405.	0.8	55
62	Comment on "Model for Heat Conduction in Nanofluids". <i>Physical Review Letters</i> , 2005, 95, 019401.	2.9	14
63	Entropy Scaling Laws for Diffusion. <i>Physical Review Letters</i> , 2004, 93, 199603; author reply 199604.	2.9	13
64	Generation of methane in the Earth's mantle: In situ high pressure-temperature measurements of carbonate reduction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 14023-14026.	3.3	143
65	Transport properties of dense fluid argon. <i>Physical Review E</i> , 2003, 68, 031204.	0.8	46
66	Hydrodynamics of Binary Fluid Phase Segregation. <i>Physical Review Letters</i> , 2002, 89, 235701.	2.9	8
67	Living polymers in a size-asymmetric electrolyte. <i>Physical Review E</i> , 2002, 66, 020801.	0.8	8
68	Electrical conductivity of lithium at megabar pressures. <i>Physical Review B</i> , 2002, 65, .	1.1	25
69	Phase transformations of nanometer size carbon particles in shocked hydrocarbons and explosives. <i>Journal of Chemical Physics</i> , 2001, 115, 2730-2736.	1.2	85
70	Surface-directed spinodal decomposition in binary fluid mixtures. <i>Physical Review E</i> , 2001, 63, 041513.	0.8	37
71	Title is missing!. <i>Journal of Statistical Physics</i> , 2000, 101, 1087-1136.	0.5	31
72	Consistent anisotropic repulsions for simple molecules. <i>Physical Review B</i> , 2000, 62, 5478-5481.	1.1	3

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73	Active clusters in disordered systems. Physical Review E, 1999, 60, 4941-4945.	0.8	9
74	Combinatorial optimization methods in disordered systems. Computer Physics Communications, 1999, 121-122, 199-205.	3.0	3
75	Phase segregation via Vlasov-Boltzmann particle dynamics. Computer Physics Communications, 1999, 121-122, 270-273.	3.0	1
76	Ground state structure of random magnets. Physical Review E, 1998, 58, 4261-4265.	0.8	27
77	Degeneracy algorithm for random magnets. Physical Review E, 1998, 58, 7978-7986.	0.8	8
78	Spinodal Decomposition in Binary Gases. Physical Review Letters, 1997, 78, 3499-3502.	2.9	55
79	Comment on "Phase Separation in Two-Dimensional Fluid Mixtures". Physical Review Letters, 1995, 75, 3776-3776.	2.9	16
80	Domain growth in computer simulations of segregating two-dimensional binary fluids. Physical Review E, 1995, 52, 3821-3826.	0.8	26
81	Coherent pion production in $^{12}\text{C}(p, n\pi^-)$ at 800 MeV. Nuclear Physics A, 1994, 577, 227-232.	0.6	2