

# Yevgeniy A Bondar

## List of Publications by Year in descending order

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74  
papers

602  
citations

566801

15  
h-index

676716

22  
g-index

75  
all docs

75  
docs citations

75  
times ranked

213  
citing authors

#	ARTICLE	IF	CITATIONS
1	Comparison of direct simulation Monte Carlo chemistry and vibrational models applied to oxygen shock measurements. <i>Physics of Fluids</i> , 2014, 26, .	1.6	46
2	Numerical simulation of shock wave propagation in microchannels using continuum and kinetic approaches. <i>Shock Waves</i> , 2009, 19, 307-316.	1.0	37
3	Development and testing of a numerical simulation method for thermally nonequilibrium dissociating flows in ANSYS Fluent. <i>Thermophysics and Aeromechanics</i> , 2016, 23, 151-163.	0.1	37
4	Different variants of R13 moment equations applied to the shock-wave structure. <i>Physics of Fluids</i> , 2017, 29, .	1.6	35
5	Parallel Object-Oriented Software System for DSMC Modeling of High-Altitude Aerothermodynamic Problems. <i>AIP Conference Proceedings</i> , 2011, , .	0.3	33
6	Object-Oriented Software Design of Real Gas Effects for the DSMC Method. <i>AIP Conference Proceedings</i> , 2005, , .	0.3	28
7	Direct simulation of rarefied high-enthalpy flow around the RAM C-II capsule. <i>High Temperature</i> , 2016, 54, 383-389.	0.1	24
8	Study of the shock wave structure by regularized Grad's set of equations. <i>Physics of Fluids</i> , 2015, 27, .	1.6	23
9	Numerical Modeling of Near-Continuum Flow over a Wedge with Real Gas Effects. <i>Journal of Thermophysics and Heat Transfer</i> , 2006, 20, 699-709.	0.9	22
10	High-accuracy deterministic solution of the Boltzmann equation for the shock wave structure. <i>Shock Waves</i> , 2015, 25, 387-397.	1.0	22
11	Surface recombination in the direct simulation Monte Carlo method. <i>Physics of Fluids</i> , 2018, 30, .	1.6	20
12	Direct Monte Carlo simulation of high-temperature chemical reactions in air. <i>Thermophysics and Aeromechanics</i> , 2013, 20, 553-564.	0.1	19
13	Viscosity effects on weak irregular reflection of shock waves in steady flow. <i>Progress in Aerospace Sciences</i> , 2010, 46, 89-105.	6.3	18
14	Viscous Effects in Steady Reflection of Strong Shock Waves. <i>AIAA Journal</i> , 2009, 47, 1263-1269.	1.5	17
15	Comparison of the Shakhov kinetic equation and DSMC method as applied to space vehicle aerothermodynamics. <i>Journal of Computational and Applied Mathematics</i> , 2020, 364, 112354.	1.1	16
16	A detailed DSMC surface chemistry model. <i>AIP Conference Proceedings</i> , 2014, , .	0.3	14
17	On the total enthalpy behavior inside a shock wave. <i>Physics of Fluids</i> , 2020, 32, .	1.6	12
18	Analysis of Repeated Collisions in the DSMC Method. <i>AIP Conference Proceedings</i> , 2005, , .	0.3	11

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19	On the Accuracy of DSMC Modeling of Rarefied Flows with Real Gas Effects. AIP Conference Proceedings, 2005, , .	0.3	11
20	DSMC Dissociation Model Based on Two-Temperature Chemical Rate Constant. , 2007, , .		10
21	Study of the shock wave structure by regularized Grad's set of equations. AIP Conference Proceedings, 2012, , .	0.3	10
22	The analysis of different variants of R13 equations applied to the shock-wave structure. AIP Conference Proceedings, 2016, , .	0.3	9
23	Hydrogen-Oxygen Detonation Study by the DSMC Method. AIP Conference Proceedings, 2011, , .	0.3	8
24	Validation of DSMC results for chemically nonequilibrium air flows against measurements of the electron number density in RAM-C II flight experiment. AIP Conference Proceedings, 2014, , .	0.3	8
25	On the calculation of the electron temperature flowfield in the DSMC studies of ionized re-entry flows. Advances in Aerodynamics, 2020, 2, .	1.3	7
26	Plane Couette Flow Computations by TRMC and MFS Methods. AIP Conference Proceedings, 2005, , .	0.3	6
27	Accuracy analysis of DSMC chemistry models applied to a normal shock wave. AIP Conference Proceedings, 2012, , .	0.3	6
28	Numerical study of shock wave entry and propagation in a microchannel. Thermophysics and Aeromechanics, 2012, 19, 17-32.	0.1	6
29	Study of the Shock Wave Structure about a Body Entering the Martian Atmosphere. AIP Conference Proceedings, 2003, , .	0.3	5
30	Rarefaction effects in hypersonic flow about a blunted leading edge. Thermophysics and Aeromechanics, 2011, 18, 523-534.	0.1	5
31	Effects of surface chemistry on high-altitude aerothermodynamics of space vehicles. , 2014, , .		5
32	Investigation of an ionized shock layer in a rarefied gas flow around a reentry vehicle. AIP Conference Proceedings, 2016, , .	0.3	5
33	Uniform rovibrational collisional N2 bin model for DSMC, with application to atmospheric entry flows. AIP Conference Proceedings, 2016, , .	0.3	5
34	Evidence-Based Interventions for ASD: A Focus on Applied Behavior Analysis (ABA) Interventions. Psychology, Journal of the Higher School of Economics, 2018, 15, 711-727.	0.1	5
35	DSMC Study of an H2/O2 Detonation Wave Structure. , 2010, , .		4
36	DSMC Modeling of the Detonation Wave Structure in Narrow Channels. , 2009, , .		3

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37	Effect of surface catalycity on high-altitude aerothermodynamics of reentry vehicles. AIP Conference Proceedings, 2016, , .	0.3	3
38	Numerical study of non-equilibrium gas flows with shock waves by using the Navier-Stokes equations in the two-temperature approximation. AIP Conference Proceedings, 2016, , .	0.3	3
39	Modeling of the plasma environment of re-entry space vehicles. AIP Conference Proceedings, 2018, , .	0.3	3
40	Aerothermodynamics of the Federation crew module at high-altitude reentry. AIP Conference Proceedings, 2019, , .	0.3	3
41	Nonequilibrium velocity distribution in steady regular shock-wave reflection. AIP Conference Proceedings, 2019, , .	0.3	3
42	Validation of DSMC and NS computations for high-enthalpy non-equilibrium flows in ground and flight tests. AIP Conference Proceedings, 2019, , .	0.3	3
43	NO production on the reentry spacecraft thermal protection system surface in the direct simulation Monte Carlo method. Journal of Physics: Conference Series, 2019, 1404, 012118.	0.3	3
44	DSMC Study of Shock-Detachment Process in Hypersonic Chemically Reacting Flow. AIP Conference Proceedings, 2005, , .	0.3	2
45	Numerical Study of the Shock Wave Propagation in a Micron-Scale Contracting Channel. , 2011, , .		2
46	DSMC Modeling of High-Temperature Chemical Reactions in Air. , 2011, , .		2
47	Numerical Study of Triple-Shock-Wave Structure in Steady Irregular Reflection. , 2011, , .		2
48	Rarefaction and Non-equilibrium Effects in Hypersonic Flows about Leading Edges of Small Bluntness. , 2011, , .		2
49	Probabilities for DSMC modelling of CO2 vibrational kinetics. AIP Conference Proceedings, 2016, , .	0.3	2
50	Numerical study of non-equilibrium high-enthalpy separated flows near a double cone and a wedge. AIP Conference Proceedings, 2017, , .	0.3	2
51	R13 moment equations applied to supersonic flow with solid wall interaction. AIP Conference Proceedings, 2019, , .	0.3	2
52	Direct statistical Monte Carlo simulation of the shock-wave structure in dissociating gas. Thermophysics and Aeromechanics, 2006, 13, 239-256.	0.1	1
53	Resonant VV Exchange in the DSMC Method with the Larsen-Borgnakke Model. , 2008, , .		1
54	Continuum and Kinetic Simulations of Shock Wave Propagation in Long MicroChannel. , 2008, , .		1

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55	DSMC Modeling of Vibration-Vibration Energy Transfer Between Diatomic Molecules. , 2008, , .		1
56	Particle Simulation of Detonation in Microchannel. , 2009, , .		1
57	A Study of the Finite Flat Plate Problem Using Various Kinetic and Continuum Models. , 2011, , .		1
58	Assessment of high-enthalpy air chemistry models for hypervelocity ground-based experiments. , 2012, , .		1
59	Simulation of 2D rarefied gas flows based on the numerical solution of the Boltzmann equation. AIP Conference Proceedings, 2017, , .	0.3	1
60	State-to-state models of vibrational relaxation in Direct Simulation Monte Carlo (DSMC). Journal of Physics: Conference Series, 2017, 815, 012011.	0.3	1
61	Numerical and experimental study of shock wave formation on the leading edge of a wedge in a high-velocity air. AIP Conference Proceedings, 2018, , .	0.3	1
62	Calculation of the heat flux and pressure on the cone surface in a high-enthalpy non-equilibrium flow of a binary nitrogen mixture (N <sub>2</sub> /N). AIP Conference Proceedings, 2018, , .	0.3	1
63	Comparison of nonequilibrium dissociation models in the direct simulation Monte Carlo method. Journal of Physics: Conference Series, 2019, 1404, 012107.	0.3	1
64	Comparison of modern implementations of the direct simulation Monte Carlo method. Journal of Physics: Conference Series, 2019, 1404, 012123.	0.3	1
65	Hybrid Model for Plasma Thruster Plume Simulation Including PIC-MCC Electrons Treatment. , 2008, , .		0
66	Detonation in Microchannel by the DSMC Method. , 2011, , .		0
67	Simulation of non-resonant gas-optical lattice interaction. AIP Conference Proceedings, 2016, , .	0.3	0
68	Non-resonant gas-optical lattice interaction with feedback from the gas to the laser radiation. AIP Conference Proceedings, 2016, , .	0.3	0
69	Numerical study of thermochemical effects on the flowfield structure near the triple point at irregular reflection of shock waves. AIP Conference Proceedings, 2017, , .	0.3	0
70	Calculation of the heat flux and pressure on the double cone surface in a high-enthalpy non-equilibrium air flow. AIP Conference Proceedings, 2019, , .	0.3	0
71	Using a tetrahedral mesh for simulation of internal flows by the DSMC method. AIP Conference Proceedings, 2019, , .	0.3	0
72	DSMC and NS computations of a weakly ionized air flow around the OREX capsule. AIP Conference Proceedings, 2020, , .	0.3	0

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73	Oxygen dissociation cross sections based on the generalized Treanor-Marrone model. AIP Conference Proceedings, 2020, , .	0.3	0
74	Effects of heterogeneous NO production on the aerothermodynamics of high-altitude re-entry. AIP Conference Proceedings, 2020, , .	0.3	0