

Nickolay Aleksandrov

List of Publications by Year in descending order

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67
papers

2,123
citations

304743

22
h-index

233421

45
g-index

67
all docs

67
docs citations

67
times ranked

1203
citing authors

#	ARTICLE	IF	CITATIONS
1	Plasma-assisted ignition and combustion. Progress in Energy and Combustion Science, 2013, 39, 61-110.	31.2	759
2	Mechanism of ultra-fast heating in a non-equilibrium weakly ionized air discharge plasma in high electric fields. Journal Physics D: Applied Physics, 2010, 43, 255201.	2.8	209
3	Ionization processes in spark discharge plasmas. Plasma Sources Science and Technology, 1999, 8, 285-294.	3.1	93
4	Simulation of the ignition of a methane-air mixture by a high-voltage nanosecond discharge. Plasma Physics Reports, 2009, 35, 867-882.	0.9	84
5	Plasma decay in N ₂ , CO ₂ and H ₂ O excited by high-voltage nanosecond discharge. Journal Physics D: Applied Physics, 2007, 40, 4493-4502.	2.8	53
6	Corona discharge at the tip of a tall object in the electric field of a thundercloud. Plasma Physics Reports, 2002, 28, 953-964.	0.9	52
7	Numerical simulation of a surface barrier discharge in air. Plasma Physics Reports, 2008, 34, 594-608.	0.9	47
8	Three-body electron attachment to a molecule. Uspekhi Fizicheskikh Nauk, 1988, 31, 101-118.	0.3	45
9	Kinetics of low-temperature plasmas for plasma-assisted combustion and aerodynamics. Plasma Sources Science and Technology, 2014, 23, 015017.	3.1	39
10	The effect of a corona discharge on a lightning attachment. Plasma Physics Reports, 2005, 31, 75-91.	0.9	38
11	Ignition of hydrocarbon-air mixtures by a nanosecond surface dielectric barrier discharge. Plasma Sources Science and Technology, 2015, 24, 045014.	3.1	36
12	Nonequilibrium Plasma Aerodynamics. , 0, , .		33
13	Gasdynamic Flow Control by Ultrafast Local Heating in a Strongly Nonequilibrium Pulsed Plasma. Plasma Physics Reports, 2021, 47, 148-209.	0.9	33
14	Effect of continuous current during pauses between successive strokes on the decay of the lightning channel. Plasma Physics Reports, 2000, 26, 893-901.	0.9	31
15	Plasma decay in air and O ₂ after a high-voltage nanosecond discharge. Journal Physics D: Applied Physics, 2012, 45, 255202.	2.8	30
16	Decay of femtosecond laser-induced plasma filaments in air, nitrogen, and argon for atmospheric and subatmospheric pressures. Physical Review E, 2016, 94, 013204.	2.1	30
17	How pulse polarity and photoionization control streamer discharge development in long air gaps. Plasma Sources Science and Technology, 2020, 29, 075004.	3.1	28
18	Electron rate coefficients in gases under non-uniform field and electron density conditions. Journal Physics D: Applied Physics, 1996, 29, 1476-1483.	2.8	27

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19	Ignition with low-temperature plasma: Kinetic mechanism and experimental verification. High Energy Chemistry, 2009, 43, 213-218.	0.9	27
20	Influence of the voltage polarity on the properties of a nanosecond surface barrier discharge in atmospheric-pressure air. Plasma Physics Reports, 2010, 36, 90-98.	0.9	26
21	Simulation of decelerating streamers in inhomogeneous atmosphere with implications for runaway electron generation. Journal of Applied Physics, 2021, 129, .	2.5	25
22	Plasma decay in the afterglow of a high-voltage nanosecond discharge in air. Plasma Physics Reports, 2012, 38, 179-186.	0.9	24
23	Plasma parameters in the channel of a long leader in air. Plasma Physics Reports, 2001, 27, 875-885.	0.9	22
24	Fast gas heating in N ₂ /O ₂ mixtures under nanosecond surface dielectric barrier discharge: the effects of gas pressure and composition. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140330.	3.4	20
25	Plasma decay in high-voltage nanosecond discharges in oxygen-containing mixtures. Plasma Physics Reports, 2016, 42, 59-67.	0.9	20
26	Longitudinal diffusion of electrons in weakly ionized gas with Coulomb collisions. Journal Physics D: Applied Physics, 1991, 24, 2164-2169.	2.8	19
27	Step propagation of a streamer in an electronegative gas. Journal of Experimental and Theoretical Physics, 2000, 91, 724-735.	0.9	19
28	Experimental and Theoretical Study of a Quasi-Steady Electron-Beam Plasma in Hot Argon. Plasma Physics Reports, 2005, 31, 425.	0.9	17
29	Kinetic mechanism of plasma recombination in methane, ethane and propane after high-voltage nanosecond discharge. Plasma Sources Science and Technology, 2016, 25, 044006.	3.1	17
30	Barrier properties influence on the surface dielectric barrier discharge driven by single voltage pulses of different duration. Journal Physics D: Applied Physics, 2019, 52, 324001.	2.8	17
31	Streamer breakdown of long gas gaps. Plasma Physics Reports, 2001, 27, 1057-1078.	0.9	15
32	Low-energy electron attachment and detachment in vibrationally excited oxygen. Journal Physics D: Applied Physics, 2009, 42, 225210.	2.8	15
33	Streamer self-focusing in an external longitudinal magnetic field. Physical Review E, 2021, 103, 063201.	2.1	14
34	Initiation of high-voltage discharge in air by a plasma filament produced by an intense femtosecond laser pulse. Plasma Physics Reports, 2008, 34, 1059-1066.	0.9	13
35	Recombination of electrons with water cluster ions in the afterglow of a high-voltage nanosecond discharge. Journal Physics D: Applied Physics, 2018, 51, 264003.	2.8	13
36	Development of high-voltage nanosecond discharge in strongly non-uniform gas. Plasma Sources Science and Technology, 2019, 28, 015005.	3.1	11

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37	Blocking streamer development by plane gaseous layers of various densities. Plasma Sources Science and Technology, 2020, 29, 034002.	3.1	10
38	Instability induced by electron transport in a weakly ionized plasma in E*H fields. Journal Physics D: Applied Physics, 1995, 28, 1072-1077.	2.8	9
39	Spatial distribution of radiation emitted by pulsed surface dielectric barrier discharge in air. Plasma Sources Science and Technology, 2020, 29, 035006.	3.1	9
40	Kinetics of excitation and ionization in nonideal plasmas. Physics of Plasmas, 1998, 5, 2127-2129.	1.9	8
41	The effect of fuel oxidation on electron swarm properties and nanosecond discharge characteristics in combustible mixtures. Plasma Sources Science and Technology, 2018, 27, 115004.	3.1	8
42	Ignition of Hydrocarbon-Oxygen Mixtures by Means of a Nanosecond Surface Dielectric Barrier Discharge. Plasma Physics Reports, 2018, 44, 1066-1075.	0.9	7
43	Monte Carlo simulation of negative ion kinetics in air plasmas in a time-varying electric field. Journal Physics D: Applied Physics, 2020, 53, 055203.	2.8	7
44	Kinetics of charged species in non-equilibrium plasma in water vapor- and hydrocarbon-containing gaseous mixtures. Journal Physics D: Applied Physics, 2022, 55, 383002.	2.8	7
45	Electron Distribution Function in a Nonideal Plasma in Strong Electric and Laser Fields. Contributions To Plasma Physics, 1999, 39, 93-96.	1.1	6
46	Plasma Decay in the Afterglow of High-Voltage Nanosecond Discharges in Unsaturated and Oxygenated Hydrocarbons. Plasma Physics Reports, 2017, 43, 1198-1207.	0.9	6
47	Development of high-voltage nanosecond discharge in combustible mixtures. Bulletin of the Lebedev Physics Institute, 2017, 44, 292-294.	0.6	5
48	Kinetics of Energetic O ⁺ Ions in the Discharge Plasmas of Water Vapor and H ₂ O-Containing Mixtures. Plasma Physics Reports, 2018, 44, 986-995.	0.9	5
49	Gas-dynamic diode™: Streamer interaction with sharp density gradients. Plasma Sources Science and Technology, 2019, 28, 095022.	3.1	5
50	Electron swarm properties and nanosecond-pulsed discharge characteristics in partially oxidized fuel:air mixtures. Plasma Sources Science and Technology, 2019, 28, 025009.	3.1	5
51	The effect of electron heating on hydrocarbon plasma decay after high-voltage nanosecond discharge. Journal Physics D: Applied Physics, 2019, 52, 505201.	2.8	4
52	Evolution of the channel of a long leader in air after a sharp decrease in the discharge current. Plasma Physics Reports, 2003, 29, 220-225.	0.9	3
53	Ignition of acetylene by high-voltage nanosecond discharge. Technical Physics Letters, 2013, 39, 606-608.	0.7	3
54	Electron Transport Coefficients in Nonequilibrium Plasmas of Water Vapor and Fuel-Oxygen Mixtures. Plasma Physics Reports, 2019, 45, 761-769.	0.9	3

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55	The effect of electron heating on plasma decay in H ₂ :O ₂ mixture excited by a repetitively pulsed nanosecond discharge. Journal Physics D: Applied Physics, 2021, 54, 335201.	2.8	3
56	Processes controlling properties of high-voltage nanosecond discharge plasma in combustible mixtures. Journal of Physics: Conference Series, 2018, 1058, 012053.	0.4	2
57	The Effect of Gas Heating on the Decay of Plasma with Hydrated Ions after a High-Voltage Nanosecond Discharge. Plasma Physics Reports, 2021, 47, 742-751.	0.9	2
58	The Influence of Electric Field on the Rate of Formation of Positive Hydrated Ions in Plasma-Containing Water Vapor. Plasma Physics Reports, 2022, 48, 131-140.	0.9	2
59	Catalytic Halocarbon Decomposition in a Microwave Post-discharge. Plasma Chemistry and Plasma Processing, 1995, 15, 529-543.	2.4	2
60	A Hydrodynamic Description of Electrons in a Space-Time Varying Electric Field. , 2002, , 179-198.		1
61	The critical electric field in heated SF ₆ . Plasma Physics Reports, 2003, 29, 161-165.	0.9	0
62	Plasma-Assisted Ignition and Deflagration-to-Detonation Transition. , 2012, , .		0
63	Plasma-Assisted Ignition and Deflagration-to-Detonation Transition. , 2013, , .		0
64	Nanosecond Discharge Ignition of Lean C ₂ H ₂ -Containing Mixtures. , 2013, , .		0
65	Numerical Modeling of ns-SDBD Plasma Formation for Flow Control by Superfast Local Heating. , 2021, , .		0
66	Runaway Electron Generation by Decelerating Streamers in Inhomogeneous Atmosphere. , 2021, , .		0
67	Numerical modeling of NS discharge development in strong magnetic field. , 2021, , .		0