Yevgeni Raitses

List of Publications by Year
in descending order

158 papers	4,847 citations	81743 39 h-index	118652 62 g-index
160 all docs	160 docs citations	160 times ranked	1847 citing authors

#	Article	IF	Citations
1	Space micropropulsion systems for Cubesats and small satellites: From proximate targets to furthermost frontiers. Applied Physics Reviews, 2018, 5, .	5.5	242
2	Parametric investigations of a nonconventional Hall thruster. Physics of Plasmas, 2001, 8, 2579-2586.	0.7	165
3	Cross-field electron transport induced by a rotating spoke in a cylindrical Hall thruster. Physics of Plasmas, 2012, 19, .	0.7	125
4	Secondary electron emission from dielectric materials of a Hall thruster with segmented electrodes. Physics of Plasmas, 2003, 10, 2574-2577.	0.7	123
5	Single-step synthesis and magnetic separation of graphene and carbon nanotubes in arc discharge plasmas. Nanoscale, 2010, 2, 2281.	2.8	120
6	Electron-wall interaction in Hall thrusters. Physics of Plasmas, 2005, 12, 057104.	0.7	114
7	Kinetic effects in a Hall thruster discharge. Physics of Plasmas, 2007, 14, 057104.	0.7	114
8	Parametric investigation of miniaturized cylindrical and annular Hall thrusters. Journal of Applied Physics, 2002, 92, 5673-5679.	1.1	109
9	A comparison of emissive probe techniques for electric potential measurements in a complex plasma. Physics of Plasmas, 2011, 18, .	0.7	104
10	Kinetic simulation of secondary electron emission effects in Hall thrusters. Physics of Plasmas, 2006, 13, 014501.	0.7	100
11	Physics of Eâ€‰Ã—â€‰B discharges relevant to plasma propulsion and similar technologies. Physics of Plasmas, 2020, 27, .	0.7	89
12	Breakdown of a Space Charge Limited Regime of a Sheath in a Weakly Collisional Plasma Bounded by Walls with Secondary Electron Emission. Physical Review Letters, 2009, 103, 145004.	2.9	88
13	Electron cross-field transport in a low power cylindrical Hall thruster. Physics of Plasmas, 2004, 11, 4922-4933.	0.7	86
14	Kinetic Theory of Plasma Sheaths Surrounding Electron-Emitting Surfaces. Physical Review Letters, 2013, 111, 075002.	2.9	85
15	Plasma measurements in a 100 W cylindrical Hall thruster. Journal of Applied Physics, 2004, 95, 2283-2292.	1.1	83
16	Fluid theory and simulations of instabilities, turbulent transport and coherent structures in partially-magnetized plasmas of $mathbf{E}imes mathbf{B}$ discharges. Plasma Physics and Controlled Fusion, 2017, 59, 014041.	0.9	83
17	Measurements of secondary electron emission effects in the Hall thruster discharge. Physics of Plasmas, 2006, 13, 014502.	0.7	82
18	Plume reduction in segmented electrode Hall thruster. Journal of Applied Physics, 2000, 88, 1263-1270.	1.1	80

#	Article	IF	Citations
19	Transition in electron transport in a cylindrical Hall thruster. Applied Physics Letters, 2010, 97, .	1.5	79
20	Experimental studies of high-frequency azimuthal waves in Hall thrusters. Physics of Plasmas, 2004, 11, 1701-1705.	0.7	76
21	Space charge saturated sheath regime and electron temperature saturation in Hall thrusters. Physics of Plasmas, 2005, 12, 073507.	0.7	76
22	Effect of Secondary Electron Emission on Electron Cross-Field Current in $E imes B$ Discharges. IEEE Transactions on Plasma Science, 2011, 39, 995-1006.	0.6	72
23	Long wavelength gradient drift instability in Hall plasma devices. I. Fluid theory. Physics of Plasmas, 2012, 19, .	0.7	66
24	Control of the electric-field profile in the Hall thruster. Physics of Plasmas, 2001, 8, 1048-1056.	0.7	63
25	Nonlinear structures and anomalous transport in partially magnetized EÃ—B plasmas. Physics of Plasmas, 2018, 25, 011608.	0.7	62
26	Detection of nanoparticles in carbon arc discharge with laser-induced incandescence. Carbon, 2017, 117, 154-162.	5.4	57
27	Evolution of the electron cyclotron drift instability in two-dimensions. Physics of Plasmas, 2018, 25, .	0.7	57
28	Enhanced ionization in the cylindrical Hall thruster. Journal of Applied Physics, 2003, 94, 852-857.	1.1	53
29	Enhanced performance of cylindrical Hall thrusters. Applied Physics Letters, 2007, 90, 221502.	1.5	53
30	Plasma-sheath instability in Hall thrusters due to periodic modulation of the energy of secondary electrons in cyclotron motion. Physics of Plasmas, 2008, 15, .	0.7	52
31	Stable synthesis of few-layered boron nitride nanotubes by anodic arc discharge. Scientific Reports, 2017, 7, 3075.	1.6	50
32	Secondary electron emission from plasma-generated nanostructured tungsten fuzz. Applied Physics Letters, 2016, 109, .	1.5	49
33	Effects of enhanced cathode electron emission on Hall thruster operation. Physics of Plasmas, 2009, 16, .	0.7	47
34	Enhanced ablation of small anodes in a carbon nanotube arc plasma. Carbon, 2008, 46, 1322-1326.	5.4	46
35	Mechanism of carbon nanostructure synthesis in arc plasma. Physics of Plasmas, 2010, 17, 057101.	0.7	45
36	Modification of electron velocity distribution in bounded plasmas by secondary electron emission. IEEE Transactions on Plasma Science, 2006, 34, 815-824.	0.6	43

#	Article	IF	Citations
37	Experimental studies of anode sheath phenomena in a Hall thruster discharge. Journal of Applied Physics, 2005, 97, 103309.	1.1	42
38	Variable operation of Hall thruster with multiple segmented electrodes. Journal of Applied Physics, 2001, 89, 2040-2046.	1.1	41
39	Temperature gradient in Hall thrusters. Applied Physics Letters, 2004, 84, 3028-3030.	1.5	41
40	Recommended Practice for Use of Emissive Probes in Electric Propulsion Testing. Journal of Propulsion and Power, 2017, 33, 614-637.	1.3	41
41	Cylindrical Hall thrusters with permanent magnets. Journal of Applied Physics, 2010, 108, .	1.1	40
42	Anode sheath in Hall thrusters. Applied Physics Letters, 2003, 83, 2551-2553.	1.5	39
43	Complex structure of the carbon arc discharge for synthesis of nanotubes. Plasma Sources Science and Technology, 2017, 26, 065019.	1.3	37
44	Shielded electrostatic probe for nonperturbing plasma measurements in Hall thrusters. Review of Scientific Instruments, 2004, 75, 393-399.	0.6	35
45	Effects of non-Maxwellian electron velocity distribution function on two-stream instability in low-pressure discharges. Physics of Plasmas, 2007, 14, 013508.	0.7	35
46	Sheath-Induced Instabilities in Plasmas with<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi mathvariant="bold">E</mml:mi><mml:mn>0</mml:mn></mml:msub><mml:mo mathvariant="bold">Ã—</mml:mo><mml:msub><mml:mi mathvariant="bold">B</mml:mi><mml:mn>0</mml:mn></mml:msub></mml:math>Drift. Physical Review Letters, 2013, 111, 115002.	2.9	35
47	Scaling of spoke rotation frequency within a Penning discharge. Physics of Plasmas, 2018, 25, .	0.7	35
48	Electron cross-field transport in a miniaturized cylindrical Hall thruster. IEEE Transactions on Plasma Science, 2006, 34, 132-141.	0.6	34
49	Long wavelength gradient drift instability in Hall plasma devices. II. Applications. Physics of Plasmas, 2013, 20, 052108.	0.7	34
50	Ionization, Plume Properties, and Performance of Cylindrical Hall Thrusters. IEEE Transactions on Plasma Science, 2010, 38, 1052-1057.	0.6	33
51	Ion acceleration in supersonically rotating magnetized-electron plasma. Plasma Physics and Controlled Fusion, 2011, 53, 124038.	0.9	33
52	Cathode effects in cylindrical Hall thrusters. Journal of Applied Physics, 2008, 104, 103302.	1.1	32
53	Fast Camera Imaging of Hall Thruster Ignition. IEEE Transactions on Plasma Science, 2011, 39, 2950-2951.	0.6	32
54	Effects of emitted electron temperature on the plasma sheath. Physics of Plasmas, 2014, 21, .	0.7	32

#	Article	IF	Citations
55	Plasma acceleration from radio-frequency discharge in dielectric capillary. Applied Physics Letters, 2006, 88, 251502.	1.5	31
56	Operation of a segmented Hall thruster with low-sputtering carbon-velvet electrodes. Journal of Applied Physics, 2006, 99, 036103.	1.1	31
57	On the potential distribution in Hall thrusters. Applied Physics Letters, 2004, 85, 2481-2483.	1.5	29
58	Floating potential of emitting surfaces in plasmas with respect to the space potential. Physics of Plasmas, 2018, 25, .	0.7	29
59	Compatibility of lithium plasma-facing surfaces with high edge temperatures in the Lithium Tokamak Experiment. Physics of Plasmas, 2017, 24, .	0.7	28
60	Non-local collisionless and collisional electron transport in low-temperature plasma. Plasma Physics and Controlled Fusion, 2009, 51, 124003.	0.9	27
61	Structural variations of the cathode deposit in the carbon arc. Carbon, 2016, 105, 490-495.	5.4	27
62	Anode sheath transition in an anodic arc for synthesis of nanomaterials. Plasma Sources Science and Technology, 2016, 25, 035003.	1.3	27
63	Laser induced fluorescence measurements of the cylindrical Hall thruster plume. Physics of Plasmas, 2010, 17, .	0.7	26
64	Self-organisation processes in the carbon arc for nanosynthesis. Journal of Applied Physics, 2015, 117, .	1.1	26
65	â€œSynthesis-onâ€•and â€œsynthesis-offâ€•modes of carbon arc operation during synthesis of carbon nanotubes. Carbon, 2017, 125, 336-343.	5.4	26
66	Feedback control of an azimuthal oscillation in the <i>E</i>â€‰Ã—â€‰<i>B</i> discharge of Hall thrusters. Physics of Plasmas, 2012, 19, .	0.7	25
67	Secondary electron emission yield from high aspect ratio carbon velvet surfaces. Journal of Applied Physics, 2017, 122, .	1.1	25
68	Laboratory Modeling of the Plasma Layer at Hypersonic Flight. Journal of Spacecraft and Rockets, 2014, 51, 838-846.	1.3	24
69	Modeling thermionic emission from laser-heated nanoparticles. Applied Physics Letters, 2016, 108, .	1.5	24
70	Particle-in-cell simulations of anomalous transport in a Penning discharge. Physics of Plasmas, 2018, 25, .	0.7	24
71	Time-resolved ion velocity distribution in a cylindrical Hall thruster: Heterodyne-based experiment and modeling. Review of Scientific Instruments, 2015, 86, 033506.	0.6	23
72	Effect of magnetic field profile on the anode fall in a Hall-effect thruster discharge. Physics of Plasmas, 2006, 13, 057104.	0.7	22

#	Article	IF	Citations
73	Role of the cathode deposit in the carbon arc for the synthesis of nanomaterials. Carbon, 2014, 77, 80-88.	5.4	22
74	Analysis of secondary electron emission for conducting materials using 4-grid LEED/AES optics. Journal Physics D: Applied Physics, 2015, 48, 195204.	1.3	22
75	Structure of nonlocal gradient-drift instabilities in Hall Eâ€‰Ã—â€‰B discharges. Physics of Plasmas, 2016, 23, .	0.7	22
76	Unstable behavior of anodic arc discharge for synthesis of nanomaterials. Journal Physics D: Applied Physics, 2016, 49, 345201.	1.3	22
77	Controlling the Plasma Flow in the Miniaturized Cylindrical Hall Thruster. IEEE Transactions on Plasma Science, 2008, 36, 1998-2003.	0.6	21
78	On limitations of laser-induced fluorescence diagnostics for xenon ion velocity distribution function measurements in Hall thrusters. Physics of Plasmas, 2018, 25, .	0.7	21
79	Current flow instability and nonlinear structures in dissipative two-fluid plasmas. Physics of Plasmas, 2018, 25, .	0.7	21
80	Synthesis of nanoparticles in carbon arc: measurements and modeling. MRS Communications, 2018, 8, 842-849.	0.8	21
81	Self-Organization, Structures, and Anomalous Transport in Turbulent Partially Magnetized Plasmas with Crossed Electric and Magnetic Fields. Physical Review Letters, 2019, 122, 185001.	2.9	21
82	Raman spectroscopy of carbon dust samples from NSTX. Journal of Nuclear Materials, 2008, 375, 365-369.	1.3	20
83	Four-Wave-Mixing Approach to <i>InÂSitu</i> Detection of Nanoparticles. Physical Review Applied, 2018, 9, .	1.5	20
84	Hall thruster operation with externally driven breathing mode oscillations. Plasma Sources Science and Technology, 2018, 27, 094006.	1.3	20
85	Root-growth of boron nitride nanotubes: experiments and <i>ab initio</i> simulations. Nanoscale, 2018, 10, 22223-22230.	2.8	19
86	A low power flexible dielectric barrier discharge disinfects surfaces and improves the action of hydrogen peroxide. Scientific Reports, 2021, 11, 4626.	1.6	19
87	Growth of nanoparticles in dynamic plasma. Physical Review E, 2019, 99, 063205.	0.8	17
88	Boundary-induced effect on the spoke-like activity in <i>E</i>â€‰Ã—â€‰<i>B</i> plasma. Physics of Plasmas, 2019, 26, .	0.7	17
89	On the mechanism of ionization oscillations in Hall thrusters. Journal of Applied Physics, 2021, 129, .	1.1	17
90	High hydrogen coverage on graphene via low temperature plasma with applied magnetic field. Carbon, 2021, 177, 244-251.	5.4	17

#	Article	IF	Citations
91	Segmented Electrode Hall Thruster. Journal of Propulsion and Power, 2006, 22, 1396-1401.	1.3	16
92	Atmospheric pressure arc discharge with ablating graphite anode. Journal Physics D: Applied Physics, 2015, 48, 245202.	1.3	16
93	Ion acceleration in a wall-less Hall thruster. Journal of Applied Physics, 2021, 130, .	1.1	15
94	Simulations of a Miniaturized Cylindrical Hall Thruster. IEEE Transactions on Plasma Science, 2008, 36, 2034-2042.	0.6	13
95	Cross-field plasma lens for focusing of the Hall thruster plume. Plasma Sources Science and Technology, 2014, 23, 044005.	1.3	13
96	Monte Carlo Simulation of Surface-Charging Phenomena on Insulators Prior to Flashover in Vacuum. IEEE Transactions on Plasma Science, 2009, 37, 698-704.	0.6	12
97	Control of Coherent Structures via External Drive of the Breathing Mode. Plasma Physics Reports, 2019, 45, 134-146.	0.3	12
98	Cylindrical Hall Thrusters. , 2006, , .		11
99	Controlling the Plasma Potential Distribution in Segmented-Electrode Hall Thruster. IEEE Transactions on Plasma Science, 2008, 36, 1202-1203.	0.6	11
100	Quantitative imaging of carbon dimer precursor for nanomaterial synthesis in the carbon arc. Plasma Sources Science and Technology, 2018, 27, 025008.	1.3	11
101	<i>In situ</i> diagnostics for nanomaterial synthesis in carbon arc plasma. Plasma Sources Science and Technology, 2018, 27, 084001.	1.3	11
102	Magnetically insulated baffled probe for real-time monitoring of equilibrium and fluctuating values of space potentials, electron and ion temperatures, and densities. Review of Scientific Instruments, 2010, 81, 10E129.	0.6	10
103	Secondary electron emission from lithium and lithium compounds. Applied Physics Letters, 2016, 109, .	1.5	9
104	Fast sweeping probe system for characterization of spokes in E Ã— B discharges. Review of Scientific Instruments, 2018, 89, 123501.	0.6	9
105	High-frequency probing diagnostic for Hall current plasma thrusters. Review of Scientific Instruments, 2002, 73, 2882-2885.	0.6	8
106	Driving Low Frequency Breathing Oscillations in a Hall Thruster. , 2014, , .		8
107	Determining the gas composition for the growth of BNNTs using a thermodynamic approach. Physical Chemistry Chemical Physics, 2019, 21, 13268-13286.	1.3	8
108	A rapid technique for the determination of secondary electron emission yield from complex surfaces. Journal of Applied Physics, 2019, 126, .	1.1	8

#	Article	IF	Citations
109	Characterization of plasma and gas-phase chemistry during boron-nitride nanomaterial synthesis by laser-ablation of boron-rich targets. Physical Chemistry Chemical Physics, 2020, 22, 20837-20850.	1.3	8
110	Studies of a modulated Hall thruster. Plasma Sources Science and Technology, 2021, 30, 055011.	1.3	8
111	Angular, temperature, and impurity effects on secondary electron emission from Ni(110). Journal of Applied Physics, 2018, 124, .	1.1	7
112	Nonlinear structures of lower-hybrid waves driven by the ion beam. Physics of Plasmas, 2018, 25, .	0.7	7
113	Restructuring of rotating spokes in response to changes in the radial electric field and the neutral pressure of a cylindrical magnetron plasma. Journal of Applied Physics, 2021, 129, .	1.1	7
114	Theoretical Analysis of Performance Parameters in Oscillating Plasma Thrusters. Journal of Propulsion and Power, 2021, 37, 544-552.	1.3	7
115	Special Issue on Plasma Propulsion. IEEE Transactions on Plasma Science, 2008, 36, 1962-1966.	0.6	6
116	Wall current closure effects on plasma and sheath fluctuations in Hall thrusters. Physics of Plasmas, 2014, 21, .	0.7	6
117	Controlling azimuthal spoke modes in a cylindrical Hall thruster using a segmented anode. Plasma Sources Science and Technology, 2018, 27, 104006.	1.3	6
118	Laser-Induced Fluorescence of Xe I and Xe II in Ambipolar Plasma Flow. IEEE Transactions on Plasma Science, 2018, 46, 3998-4009.	0.6	6
119	Theory and Modelling of Axial Mode Oscillations in Hall Thruster. , 2019, , .		6
120	Mitigation of breathing oscillations and focusing of the plume in a segmented electrode wall-less Hall thruster. Applied Physics Letters, 2021, 119, .	1.5	6
121	Electron Transport and Ion Acceleration in a Low-Power Cylindrical Hall Thruster. , 2004, , .		5
122	Comment on â€œEffects of magnetic field gradient on ion beam current in cylindrical Hall ion sourceâ€•[J. Appl. Phys. 102, 123305 (2007)]. Journal of Applied Physics, 2008, 104, 066102.	1.1	5
123	Measurements and theory of driven breathing oscillations in a Hall effect thruster. , 2016, , .		5
124	Moderate pressure plasma source of nonthermal electrons. Journal Physics D: Applied Physics, 2018, 51, 235202.	1.3	5
125	Comparisons in Performance of Electromagnet and Permanent-Magnet Cylindrical Hall-Effect Thrusters. , 2010, , .		4
126	Background Gas Pressure Effects in the Cylindrical Hall Thruster. , 2010, , .		4

#	Article	IF	Citations
127	Ferroelectric cathodes in transverse magnetic fields. Journal of Applied Physics, 2003, 93, 3481-3485.	1.1	3
128	Nonlocal collisionless and collisional electron transport in low temperature plasmas. , 2010, , .		2
129	Application of Hall Thrusters with Modulated Oscillations. , 2020, , .		2
130	Anode Fall Formation in a Hall Thruster. , 2004, , .		1
131	Plasma Plume of Annular and Cylindrical Hall Thrusters. IEEE Transactions on Plasma Science, 2008, 36, 1204-1205.	0.6	1
132	Comment on â€œThree-dimensional numerical investigation of electron transport with rotating spoke in a cylindrical anode layer Hall plasma acceleratorâ€•[Phys. Plasmas 19, 073519 (2012)]. Physics of Plasmas, 2013, 20, 014701.	0.7	1
133	Driving low frequency oscillations in a Hall thruster. , 2014, , .		1
134	Hall thruster with externally driven oscillations. , 2019, , .		1
135	Magnetically insulated baffled probe (MIBP) for low-temperature and fusion-boundary plasma studies. Plasma Physics and Controlled Fusion, 2021, 63, 093001.	0.9	1
136	Quasi-steady testing approach for high-power Hall thrusters. Journal of Applied Physics, 2021, 130, .	1.1	1
137	Determination of positive anode sheath in anodic carbon arc for synthesis of nanomaterials. Journal Physics D: Applied Physics, 2022, 55, 114001.	1.3	1
138	Effect of magnetic field distribution in cylindrical Hall current plasma sources. , 0, , .		0
139	Operation of ferroelectric plasma cathodes in magnetic field. , 0, , .		0
140	A study of wall effects on hall thruster operation. , 0, , .		0
141	Study of the anodic are discharge for carbon nanotube synthesis. , 0, , .		0
142	Electron Cross-Field Transport in a Miniaturized Cylindrical Hall Thruster. , 2005, , .		0
143	Controlling synthesis of carbon nanostructures by plasma means in arc discharge. , 2010, , .		0
144	Kinetic effects in hall plasma thrusters. , 2010, , .		0

#	Article	IF	Citations
145	Effects of the cathode electron emission and background gas pressure on transient phenomena in magnetized thruster discharge. , 2010, , .		0
146	A comparison of emissive probe techniques for electric potential measurements in a complex plasma. , 2011, , .		0
147	Plasma Based nano-technology Laboratory. , 2011, , .		0
148	Cross-field electron transport through a rotating spoke in the cylindrical hall thruster. , 2011, , .		0
149	Rotating spoke phenomena in hall thrusters. , 2012, , .		0
150	Nonlocal kinetic theory of plasma discharges. , 2014, , .		0
151	Plasma-wall interaction in presence of intense electron emission from walls. , 2014, , .		0
152	Electron emission from micro-architectured materials for plasma applications. , 2014, , .		0
153	Turbulence and structures related to lower-hybrid and ion-sound instabilities in Hall thrusters. , 2016, , .		0
154	Complex Structure of the Carbon Arc Discharge For Nanomaterial Synthesis. , 2017, , .		0
155	Secondary Electron Emission From Carbon Velvet. , 2017, , .		0
156	Particle-in-Cell Simulation of Anomalous Transport in a Penning Discharge. , 2017, , .		0
157	Experimental study of time dependence ablation rate in atmospheric pressure DC carbon arc discharges. , 2017, , .		0
158	Correction: Application of Hall Thrusters with Modulated Oscillations. , 2020, , .		0