Yuri A Astrov

List of Publications by Year
in descending order

80	1,295	471509 17	395702 33
papers	citations	h-index	g-index

83	83	83	415
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Formation of Clusters of Localized States in a Gas Discharge System via a Self-Completion Scenario. Physical Review Letters, 1997, 79, 2983-2986.	7.8	131
2	Plasma spots in a gas discharge system: birth, scattering and formation of molecules. Physics Letters, Section A: General, Atomic and Solid State Physics, 2001, 283, 349-354.	2.1	87
3	Zigzag Destabilized Spirals and Targets. Physical Review Letters, 1998, 80, 5341-5344.	7.8	73
4	Hexagon and stripe Turing structures in a gas discharge system. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 211, 184-190.	2.1	72
5	Hexagon structures in a two-dimensional dc-driven gas discharge system. Physical Review E, 1998, 58, 7109-7117.	2.1	69
6	Stripe Turing structures in a two-dimensional gas discharge system. Physical Review E, 1997, 55, 6731-6740.	2.1	61
7	Spatiotemporal filamentary patterns in a dc-driven planar gas discharge system. Physical Review E, 2001, 63, 026409.	2.1	52
8	Nonlinear interaction of homogeneously oscillating domains in a planar gas discharge system. Physical Review E, 2000, 62, 4889-4897.	2.1	49
9	Experimental Evidence for Zigzag Instability of Solitary Stripes in a Gas Discharge System. Physical Review Letters, 1997, 78, 3129-3132.	7.8	44
10	Speed properties of a semiconductorâ€discharge gap IR image converter studied with a streak camera system. Journal of Applied Physics, 1993, 74, 2159-2166.	2.5	40
11	High speed conversion of infrared images with a planar gas discharge system. Journal of Applied Physics, 1999, 85, 3960-3965.	2.5	40
12	Multioscillatory patterns in a hybrid semiconductor gas-discharge system. Physical Review E, 2002, 65, 066210.	2.1	34
13	Pattern formation in planar dc-driven semiconductorâ€“gas discharge devices: two mechanisms. Journal Physics D: Applied Physics, 2005, 38, 468-476.	2.8	34
14	Glow dynamics in a semiconductor-gas discharge image converter. Journal of Applied Physics, 1997, 81, 1077-1086.	2.5	27
15	Rotating waves in a planar dc-driven gas-discharge system with semi-insulating GaAs cathode. Physics Letters, Section A: General, Atomic and Solid State Physics, 2003, 307, 299-303.	2.1	24
16	Spontaneous division of dissipative solitons in a planar gas-discharge system with high ohmic electrode. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 358, 404-408.	2.1	22
17	Experimental and numerical observation of quasiparticle like structures in a distributed dissipative system. Physics Letters, Section A: General, Atomic and Solid State Physics, 1993, 177, 220-224.	2.1	19
18	High-Speed Switch-On of a Semiconductor Gas Discharge Image Converter Using Optimal Control Methods. Journal of Computational Physics, 2001, 170, 395-414.	3.8	18

#	Article	IF	Citations
19	Gas-phase doping of silicon with sulfur. Semiconductor Science and Technology, 2011, 26, 055021.	2.0	18
20	Rotating bound states of dissipative solitons in systems of reaction-diffusion type. European Physical Journal B, 2003, 37, 199-204.	1.5	17
21	Diffusion doping of silicon with magnesium. Physica Status Solidi (A) Applications and Materials Science, 2017, 214, 1700192.	1.8	17
22	Spatiotemporal structures in a transversely extended semiconductor system. Technical Physics Letters, 2002, 28, 910-912.	0.7	13
23	Townsend-like discharge: the suppression of instabilities by a semiconductor electrode. Journal Physics D: Applied Physics, 2009, 42, 235208.	2.8	13
24	Diffusion of interstitial magnesium in dislocation-free silicon. Semiconductors, 2017, 51, 1-3.	0.5	13
25	An effective infrared-visible conversion technique for remote quantitative measurements of thermal fields. Infrared Physics and Technology, 1995, 36, 809-817.	2.9	12
26	<title>Noise properties of a high-speed semiconductor-gas-discharge infrared imager</title>. , 2002, 4669, 1.		12
27	Silicon with an increased content of monoatomic sulfur centers: Sample fabrication and optical spectroscopy. Semiconductors, 2013, 47, 247-251.	0.5	12
28	Dynamics and stability of the Townsend discharge in nitrogen in narrow gaps. Physical Review E, 2014, 89, 033109.	2.1	12
29	Radii of Rydberg states of isolated silicon donors. Physical Review B, 2018, 98, .	3.2	12
30	Phase transition in an ensemble of dissipative solitons of a Turing system. Physical Review E, 2003, 67, 035203.	2.1	11
31	High-temperature diffusion of magnesium in dislocation-free silicon. Semiconductors, 2017, 51, 1031-1033.	0.5	11
32	Further investigations of the deep double donor magnesium in silicon. Physical Review B, 2018, 98, .	3.2	11
33	Planar microdischarge device for high-speed infrared thermography: Application of selenium-doped silicon detectors. Journal of Applied Physics, 2008, 103, 114512.	2.5	10
34	New photographic system for investigating characteristics of infrared laser radiation. Soviet Journal of Quantum Electronics, 1977, 7, 954-957.	0.1	9
35	Dynamics of zigzag destabilized solitary stripes in a dc-driven pattern-forming semiconductor gas-discharge system. Physical Review E, 2000, 61, 4899-4905.	2.1	9
36	Modification of GaAs surface by low-current Townsend discharge. Journal Physics D: Applied Physics, 2010, 43, 275302.	2.8	9

#	Article	IF	Citations
37	Dynamics of nonequilibrium electrons on neutral center states of interstitial magnesium donors in silicon. Physical Review B, 2016, 94, .	3.2	9
38	Shallow donor complexes formed by pairing of double-donor magnesium with group-III acceptors in silicon. Physical Review B, 2019, 99, .	3.2	9
39	Doping of silicon with selenium by diffusion from the gas phase. Semiconductors, 2014, 48, 413-416.	0.5	8
40	Comparative study of noise in low-current Townsend discharge in nitrogen and argon. Physical Review E, 2017, 95, 043206.	2.1	8
41	Gas discharge in thin gaps filled with argon and nitrogen at cryogenic temperatures. Technical Physics Letters, 2008, 34, 615-617.	0.7	7
42	Control of a noise-induced transition in a nonlinear dynamical system. Physical Review E, 2008, 77, 026201.	2.1	7
43	Hexagonal structures of current in a â€œsemiconductor-gas-discharge gapâ€•system. Technical Physics, 2011, 56, 197-203.	0.7	7
44	Self-organized patterns in successive bifurcations in planar semiconductor-gas-discharge device. Physical Review E, 2015, 91, 032909.	2.1	7
45	Chemical Shift and Exchange Interaction Energy of the 1s States of Magnesium Donors in Silicon. The Possibility of Stimulated Emission. Semiconductors, 2019, 53, 1234-1237.	0.5	7
46	Investigation of the Magnesium Impurity in Silicon. Semiconductors, 2020, 54, 393-398.	0.5	7
47	SELF-ORGANIZED QUASIPARTICLES AND OTHER PATTERNS IN PLANAR GAS-DISCHARGE SYSTEMS. , 2001, , .		7
48	<title>Application of high-speed IR converter in scientific and technological research</title>. , 2002, 4669, 13.		6
49	Control of the breakdown delay time in a micro-discharge system by small dc bias current. Journal Physics D: Applied Physics, 2008, 41, 135502.	2.8	6
50	Planar sulfur-doped silicon detectors for high-speed infrared thermography. Infrared Physics and Technology, 2009, 52, 25-31.	2.9	6
51	Townsend discharge in nitrogen at low temperatures: enhanced noise and instability due to electrode phenomena. Journal Physics D: Applied Physics, 2016, 49, 095202.	2.8	6
52	Mg-pair isoelectronic bound exciton identified by its isotopic fingerprint in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mmultiscripts><mml:mi>Si</mml:mi><mml:mprescripts /><mml:none /><mml:mn>28</mml:mn></mml:mmultiscripts></mml:math>. Physical Review B, 2018, 98, .	3.2	6
53	Infrared absorption cross sections, and oscillator strengths of interstitial and substitutional double donors in silicon. Physical Review Materials, 2021, 5, .	2.4	6
54	Excitation of wave patterns in an infrared-visible converter. Journal Physics D: Applied Physics, 1994, 27, 2354-2362.	2.8	5

#	Article	IF	Citations
55	High-field impurity magneto-optics of Si:Se. Physical Review B, 2014, 90, .	3.2	5
56	Silicon Doped with Sulfur as a Detector Material for High Speed Infrared Image Converters. Solid State Phenomena, 2005, 108-109, 401-406.	0.3	4
57	Development of photodetectors for image converters: Doping of silicon with selenium from the gas phase. Semiconductors, 2008, 42, 448-452.	0.5	4
58	GaAs oxidation with Townsend-discharge three-electrode microreactor. Journal of Applied Physics, 2018, 124, .	2.5	4
59	Townsend discharge in argon and nitrogen: Study of the electron distribution function. Journal of Applied Physics, 2019, 126, .	2.5	4
60	Evenâ€Parity Excited States in Infrared Emission, Absorption, and Raman Scattering Spectra of Shallow Donor Centers in Silicon. Physica Status Solidi (B): Basic Research, 2019, 256, 1800514.	1.5	4
61	DC Townsend Discharge in Nitrogen: Temperatureâ€Dependent Phenomena. Contributions To Plasma Physics, 2012, 52, 682-691.	1.1	3
62	Solubility of sulfur in silicon. Semiconductors, 2012, 46, 969-970.	0.5	3
63	Decomposition of a Solid Solution of Interstitial Magnesium in Silicon. Semiconductors, 2019, 53, 296-297.	0.5	3
64	Higher-order Zeeman effect of Mg-related donor complexes in silicon. Physical Review B, 2020, 102, .	3.2	3
65	Speed properties of a gas-discharge gap IR-visible converter studied with a streak-camera system. Proceedings of SPIE, 1993, , .	0.8	2
66	Spatially and temporally resolved IR image detection with a semiconductor-gas-discharge device. , 1994, , .		2
67	Sensitivity performance of ultrafast IR imaging systems in the basis of a planar semiconductor-gas discharge IR-to-visible converter. , 2003, , .		2
68	Redistribution of deep selenium and sulfur impurities in silicon upon surface doping with phosphorus. Semiconductors, 2009, 43, 710-715.	0.5	2
69	Dynamics of the Townsend discharge in argon. Technical Physics, 2015, 60, 660-664.	0.7	2
70	Detection of Sulfurâ€Related Defects in Sulfur Diffused nâ€•and pâ€Type Si by DLTS. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900303.	1.8	2
71	Suppression of a noise-induced transition by feedback control. , 0, , .		1
72	Formation of S2 â€œquasi-moleculesâ€•in sulfur-doped silicon. Semiconductors, 2015, 49, 421-422.	0.5	1

#	Article	IF	Citations
73	DLTS Investigation of the Energy Spectrum of Si:Mg Crystals. Semiconductors, 2019, 53, 789-794.	0.5	1
74	Application Of Ionization-Type Semiconductor Device For Infra-Red Diagnostics. , 1985, , .		0
75	Semiconductor-gas discharge electronic devices: stability, patterns and control. , 0, , .		0
76	Polymorphism of condensed phase of dissipative solitons. Technical Physics Letters, 2010, 36, 629-631.	0.7	0
77	Infrared Single Photon Centers in Chalcogen Doped Silicon for Quantum Computing. , 2014, , .		0
78	Mid-infrared spectroscopy of sulphur and selenium donors in silicon for quantum optics. , 2016, , .		0
79	Study of GaAs oxidation in the low-current Townsend discharge. Journal of Physics: Conference Series, 2019, 1400, 055042.	0.4	0
80	Features of Photothermal Ionization in Photoconducting Spectra of Mid-Infrared Silicon Detectors Doped by Deep Selenium Double Donors. , 2020, , .		0