David Tetelbaum

List of Publications by Year
in descending order

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114	1,163	516215	476904
papers	citations	16 h-index	29 g-index

114	114	114	788
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Fieldâ€•and irradiationâ€‐induced phenomena in memristive nanomaterials. Physica Status Solidi C: Current Topics in Solid State Physics, 2016, 13, 870-881.	0.8	92
2	Multilayer Metalâ€Oxide Memristive Device with Stabilized Resistive Switching. Advanced Materials Technologies, 2020, 5, 1900607.	3.0	78
3	Phase transformations at bombardment of Al and Fe polycrystalline films with B+, C+, N+, P+, and As+ ions. Physica Status Solidi A, 1973, 19, 373-378.	1.7	75
4	Bipolar resistive switching and charge transport in silicon oxide memristor. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2015, 194, 48-54.	1.7	75
5	Nitrogen as dopant in silicon and germanium. Physica Status Solidi A, 1976, 35, 11-36.	1.7	64
6	Ion implantation in Î²-Ga2O3: Physics and technology. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2021, 39, .	0.9	45
7	Investigation of the electronic structure of the phosphorus-doped Si and SiO2:Si quantum dots by XPS and HREELS methods. Surface and Interface Analysis, 2004, 36, 959-962.	0.8	31
8	On the peculiarities of silicon amorphization at ion bombardment. Physica Status Solidi A, 1972, 12, 679-685.	1.7	28
9	The enhancement of luminescence in ion implanted Si quantum dots in SiO2matrix by means of dose alignment and doping. Nanotechnology, 2000, 11, 295-297.	1.3	25
10	Peculiarities of the formation and properties of light-emitting structures based on ion-synthesized silicon nanocrystals in SiO2 and Al2O3 matrices. Physics of the Solid State, 2012, 54, 368-382.	0.2	24
11	Filamentary model of bipolar resistive switching in capacitor-like memristive nanostructures on the basis of yttria-stabilised zirconia. International Journal of Nanotechnology, 2017, 14, 604.	0.1	24
12	Effect of carbon implantation on visible luminescence and composition of Si-implanted SiO2 layers. Surface and Coatings Technology, 2009, 203, 2658-2663.	2.2	20
13	Annealing-induced evolution of optical properties of the multilayered nanoperiodic SiO x /ZrO2 system containing Si nanoclusters. Semiconductors, 2011, 45, 731-737.	0.2	20
14	Influence of the nature of oxide matrix on the photoluminescence spectrum of ion-synthesized silicon nanostructures. Thin Solid Films, 2006, 515, 333-337.	0.8	19
15	Effect of Ion Doping with Donor and Acceptor Impurities on Intensity and Lifetime of Photoluminescence from SiO₂ Films with Silicon Quantum Dots. Journal of Nanoscience and Nanotechnology, 2008, 8, 780-788.	0.9	19
16	Deep UV narrow-band photodetector based on ion beam synthesized indium oxide quantum dots in Al₂O₃ matrix. Nanotechnology, 2018, 29, 305603.	1.3	18
17	Electron microscopic studies of silicon layers irradiated with high doses of nitrogen ions. Physica Status Solidi A, 1976, 36, 81-88.	1.7	16
18	Properties of Al2O3: nc-Si nanostructures formed by implantation of silicon ions into sapphire and amorphous films of aluminum oxide. Physics of the Solid State, 2009, 51, 409-416.	0.2	16

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19	Manipulation of resistive state of silicon oxide memristor by means of current limitation during electroforming. Superlattices and Microstructures, 2018, 122, 371-376.	1.4	16
20	Thermal evolution of the morphology, structure, and optical properties of multilayer nanoperiodic systems produced by the vacuum evaporation of SiO and SiO2. Semiconductors, 2013, 47, 481-486.	0.2	15
21	Long-range effect under low-intensity irradiation of solids. Journal of Surface Investigation, 2009, 3, 249-258.	0.1	14
22	Formation and â€œwhiteâ€•photoluminescence of nanoclusters in SiO x films implanted with carbon ions. Semiconductors, 2010, 44, 1450-1456.	0.2	14
23	XANES, USXES and XPS investigations of electron energy and atomic structure peculiarities of the silicon suboxide thin film surface layers containing Si nanocrystals. Surface and Interface Analysis, 2010, 42, 891-896.	0.8	14
24	Light-emitting 9R-Si phase formed by Kr+ ion implantation into SiO2/Si substrate. Applied Physics Letters, 2018, 113, .	1.5	14
25	Ion-beam modification of metastable gallium oxide polymorphs. Materials Letters, 2021, 302, 130346.	1.3	14
26	Chemical and phase compositions of silicon oxide films with nanocrystals prepared by carbon ion implantation. Physics of the Solid State, 2012, 54, 394-403.	0.2	13
27	The calculation of secondary defect formation at ion implantation of silicon. Physica Status Solidi A, 1976, 37, 57-64.	1.7	12
28	The influence of the annealing conditions on the photoluminescence of ion-implanted SiO2:Si nanosystem at additional phosphorus implantation. Physica E: Low-Dimensional Systems and Nanostructures, 2003, 16, 410-413.	1.3	11
29	Phonon-assisted radiative electron-hole recombination in silicon quantum dots. Physics of the Solid State, 2004, 46, 27-31.	0.2	11
30	Si:Si LEDs with room-temperature dislocation-related luminescence. Semiconductors, 2016, 50, 240-243.	0.2	11
31	Enhanced Solar-Blind Photodetection Performance of Encapsulated Ga₂O₃Nanocrystals in Al₂O₃Matrix. IEEE Sensors Journal, 2018, 18, 4046-4052.	2.4	11
32	Behavioral Features of MIS Memristors with a Si3N4 Nanolayer Fabricated on a Conductive Si Substrate. Semiconductors, 2018, 52, 1540-1546.	0.2	11
33	The effect of implantation of P ions on the photoluminescence of Si nanocrystals in SiO2 layers. Semiconductors, 2003, 37, 713-717.	0.2	10
34	Ion beam synthesis of Si nanocrystals in silicon dioxide and sapphire matricesâ€”the photoluminescence study. Vacuum, 2005, 78, 519-524.	1.6	10
35	Improvement of the photon generation efficiency in phosphorus-doped silicon nanocrystals: Î“â€“X mixing of the confined electron states. Journal of Physics Condensed Matter, 2009, 21, 045803.	0.7	10
36	Phosphorus doping as an efficient way to modify the radiative interband recombination in silicon nanocrystals. Journal of Surface Investigation, 2009, 3, 527-533.	0.1	10

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37	Flexible Monte-Carlo approach to simulate electroforming and resistive switching in filamentary metal-oxide memristive devices. Modelling and Simulation in Materials Science and Engineering, 2020, 28, 015007.	0.8	10
38	The influence of P+, B+, and N+ ion implantation on the luminescence properties of the SiO2: nc-Si system. Physics of the Solid State, 2004, 46, 17-21.	0.2	9
39	Radiation defect formation at ion implantation of semiconductors in the presence of force fields. Physica Status Solidi A, 1979, 51, 629-640.	1.7	9
40	Abnormally Deep Structural Changes in Ion-Implanted Silicon. Physica Status Solidi A, 1986, 94, 395-402.	1.7	8
41	Effect of Coalescence and of the Character of the Initial Oxide on the Photoluminescence of Ion-Synthesized Si Nanocrystals in SiO[sub 2]. Physics of the Solid State, 2005, 47, 13.	0.2	8
42	Annealing-induced evolution of the structural and morphological properties of a multilayer nanoperiodic SiO x /ZrO2 system containing Si nanoclusters. Semiconductors, 2014, 48, 42-45.	0.2	8
43	Formation of hexagonal 9R silicon polytype by ion implantation. Technical Physics Letters, 2017, 43, 767-769.	0.2	8
44	The role of radiation damage in the crystallization kinetics of thin amorphous dielectric layers. Physica Status Solidi A, 1975, 29, 303-307.	1.7	7
45	Investigations of SiC semiconductor nanoinclusions formed by sequential ion implantation and annealing in thermally oxidized Si. Surface and Interface Analysis, 2008, 40, 571-574.	0.8	7
46	Synchrotron investigations of electronic and atomic-structure peculiarities for silicon-oxide filmsâ€™ surface layers containing silicon nanocrystals. Journal of Surface Investigation, 2011, 5, 958-967.	0.1	7
47	Photoluminescence of porous silicon saturated with tungsten-tellurite glass with rare-earth metal impurities. Physics of the Solid State, 2011, 53, 2415-2420.	0.2	7
48	Mechanism of quantum dot luminescence excitation within implanted SiO₂:Si:C films. Journal of Physics Condensed Matter, 2012, 24, 045301.	0.7	7
49	Effect of ion doping on the dislocation-related photoluminescence in Si+-implanted silicon. Semiconductors, 2014, 48, 199-203.	0.2	7
50	Layer-by-layer composition and structure of silicon subjected to combined gallium and nitrogen ion implantation for the ion synthesis of gallium nitride. Semiconductors, 2016, 50, 271-275.	0.2	7
51	Bipolar resistive switching in metal-insulator-semiconductor nanostructures based on silicon nitride and silicon oxide. Journal of Physics: Conference Series, 2018, 993, 012028.	0.3	7
52	The peculiarities of electronic structure of Si nanocrystals formed in SiO2 and Al2O3 matrix with and without P doping. Surface and Interface Analysis, 2006, 38, 433-436.	0.8	6
53	Effect of Boron Impurity on the Light-Emitting Properties of Dislocation Structures Formed in Silicon by Si+ Ion Implantation. Semiconductors, 2018, 52, 843-848.	0.2	6
54	Adaptive behaviour of silicon oxide memristive nanostructures. Journal of Physics: Conference Series, 2016, 741, 012161.	0.3	5

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55	The long-range action of light on the microhardness of metals in stratified heterogeneous systems. Technical Physics Letters, 2004, 30, 471-473.	0.2	4
56	On the high-dose effect in the case of ion implantation of silicon. Semiconductors, 2004, 38, 1260-1262.	0.2	4
57	Luminescence and structure of nanosized inclusions formed in SiO2 layers under double implantation of silicon and carbon ions. Journal of Surface Investigation, 2009, 3, 702-708.	0.1	4
58	Formation of gold nanoparticles in single-layer and multi-layer ensembles of light-emitting silicon nanocrystals using ion implantation. Bulletin of the Russian Academy of Sciences: Physics, 2012, 76, 214-217.	0.1	4
59	Role of an oxide layer in the long-range effect upon irradiation of silicon by light and ions with medium energy. Journal of Surface Investigation, 2013, 7, 631-636.	0.1	4
60	Localization of dislocation-related luminescence centers in self-ion implanted silicon and effect of additional boron ion doping. Physica Status Solidi C: Current Topics in Solid State Physics, 2015, 12, 84-88.	0.8	4
61	Resistive switching in Au/SiO x /TiN/Ti memristive structures with varied geometric parameters and stoichiometry of dielectric film. Technical Physics Letters, 2016, 42, 505-508.	0.2	4
62	Composition and luminescence of Si and SiO<SUB align="right">2 layers co-implanted with Ga and N ions. International Journal of Nanotechnology, 2017, 14, 637.	0.1	4
63	Luminescent and Structural Properties of Electron-Irradiated Silicon Light-Emitting Diodes with Dislocation-Related Luminescence. Materials Today: Proceedings, 2018, 5, 14772-14777.	0.9	4
64	Effect of ion irradiation on resistive switching in metal-oxide memristive nanostructures. Journal of Physics: Conference Series, 2019, 1410, 012245.	0.3	4
65	Photoluminescence of ion-synthesized 9R-Si inclusions in SiO2/Si structure: Effect of irradiation dose and oxide film thickness. Applied Physics Letters, 2021, 118, 212101.	1.5	4
66	The Effect of Ion Implantation on the Substructure of Metal Films. Physica Status Solidi A, 1990, 120, 441-446.	1.7	3
67	Extremal dependence of the concentration of paramagnetic centers related to dangling bonds in si on ion-irradiation dose as evidence of nanostructuring. Semiconductors, 2003, 37, 1342-1344.	0.2	3
68	A mechanical model of amorphization under ion bombardment. Physics of the Solid State, 2004, 46, 2026-2029.	0.2	3
69	Photoluminescence of Si0.9Ge0.1O2 and GeO2 films irradiated with silicon ions. Technical Physics Letters, 2005, 31, 509-512.	0.2	3
70	X-ray absorption near-edge structure anomalous behaviour in structures with buried layers containing silicon nanocrystals. Journal of Synchrotron Radiation, 2014, 21, 209-214.	1.0	3
71	The effect of irradiation with H+ and Ne+ ions on resistive switching in metalâ€“insulatorâ€“metal memristive structures based on SiO x. Technical Physics Letters, 2015, 41, 957-960.	0.2	3
72	Influence of ion irradiation on the resistive switching parameters of SiO_x-based thin-film structures. Journal of Physics: Conference Series, 2015, 643, 012094.	0.3	3

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73	Effect of annealing on carrier transport properties of GaN-incorporated silicon. RSC Advances, 2016, 6, 74691-74695.	1.7	3
74	Molecular dynamics simulation of the penetration of silicon by hypersonic waves generated in native silicon oxide under irradiation. Journal of Surface Investigation, 2017, 11, 756-761.	0.1	3
75	Disordering of Î²-Ga2O3 upon irradiation with Si+ ions: Effect of surface orientation. Materials Letters, 2022, 319, 132248.	1.3	3
76	Hall Study of Silicon Layers Doped with Phosphorus and Boron by Ion Implantation. Physica Status Solidi A, 1971, 6, 337-344.	1.7	2
77	The room-temperature photoluminescence of Si nanocrystals in a-Si matrix composite system produced by the irradiation of silicon with ions of high and medium masses. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 2003, 101, 279-282.	1.7	2
78	The effect of irradiation on the mechanical properties of metals. Technical Physics Letters, 2003, 29, 57-59.	0.2	2
79	Photoluminescence and EPR of porous silicon formed on n + and p + single crystals implanted with boron and phosphorus ions. Physics of the Solid State, 2008, 50, 1565-1569.	0.2	2
80	Long-range effect of the irradiation of silicon with light on the Schottky-barrier photovoltage. Semiconductors, 2012, 46, 622-624.	0.2	2
81	Waveguide effect for hypersonic waves in silicon with dislocations. Journal of Surface Investigation, 2013, 7, 351-355.	0.1	2
82	Investigation of the effect of long-range action by measuring the Kikuchi line width. Journal of Surface Investigation, 2014, 8, 1165-1167.	0.1	2
83	Ion-beam synthesis of GaN in silicon. Journal of Physics: Conference Series, 2015, 643, 012082.	0.3	2
84	Electronic states in spherical GaN nanocrystals embedded in various dielectric matrices: The k â‹… p-calculations. AIP Advances, 2016, 6, 015007.	0.6	2
85	Modification of YBa2Cu3O7â€“Î´ thin films by ion implantation. Journal of Surface Investigation, 2016, 10, 438-440.	0.1	2
86	Effect of intrinsic impurities and annealing conditions on dislocation-related luminescence in self-ion-implanted Si. Physica Status Solidi C: Current Topics in Solid State Physics, 2016, 13, 937-939.	0.8	2
87	Medium-energy ion-beam simulation of the effect of ionizing radiation and displacement damage on SiO2-based memristive nanostructures. Nuclear Instruments & Methods in Physics Research B, 2016, 379, 13-17.	0.6	2
88	The Effects of Aluminum Gettering and Thermal Treatments on the Lightâ€Emitting Properties of Dislocation Structures in Selfâ€Implanted Silicon Subjected to Boron Ion Doping. Physica Status Solidi (A) Applications and Materials Science, 2019, 216, 1900323.	0.8	2
89	The Effect of Irradiation with Si+ Ions on Resistive Switching in Memristive Structures Based on Yttria-Stabilized Zirconia. Technical Physics Letters, 2019, 45, 690-693.	0.2	2
90	Temperature dependence of dislocation-related photoluminescence (D1) of self-implanted silicon subjected to additional boron implantation. Nuclear Instruments & Methods in Physics Research B, 2020, 472, 32-35.	0.6	2

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91	Effect of current limitation on the adaptive behavior of memristive nanostructures. Journal of Physics: Conference Series, 2017, 917, 082012.	0.3	2
92	Influence of chemical nature of implanted atoms on photoluminescence of ion-synthesized 9R-Si hexagonal silicon. Materials Letters, 2022, 308, 131103.	1.3	2
93	Anomalous solubility of implanted nitrogen in heavily boron-doped silicon. Semiconductors, 2004, 38, 775-777.	0.2	1
94	Long-range influence of illumination on the microhardness of aluminum and silicon. Bulletin of the Russian Academy of Sciences: Physics, 2008, 72, 1303-1306.	0.1	1
95	Investigation of the long-range effect of light irradiation by means of Rutherford backscattering/ion channeling spectroscopy. Journal of Surface Investigation, 2009, 3, 239-241.	0.1	1
96	Influence of ion irradiation on the morphology, structure, and optical properties of gold nanoparticles synthesized in SiO2 and Al2O3 dielectric matrices. Journal of Surface Investigation, 2012, 6, 681-687.	0.1	1
97	Effect of ion irradiation on the structure and luminescence characteristics of porous silicon impregnated with tungsten-telluride glass doped by Er and Yb impurities. Physics of the Solid State, 2014, 56, 631-634.	0.2	1
98	Formation of hexagonal silicon regions in silicon. Journal of Physics: Conference Series, 2018, 1124, 022007.	0.3	1
99	Calculation of the Influence of the Ion Current Density and Temperature on the Accumulation Kinetics of Point Defects under the Irradiation of Si with Light Ions. Semiconductors, 2018, 52, 1091-1096.	0.2	1
100	Towards an efficient light-emitting source based on self-implanted silicon with dislocation-related luminescence. Journal of Physics: Conference Series, 2019, 1410, 012152.	0.3	1
101	Mechanism of formation of light-emitting silicon hexagonal phase 9R-Si. Journal of Physics: Conference Series, 2019, 1410, 012037.	0.3	1
102	Calculating Silicon-Amorphization Doses under Medium-Energy Light-Ion Irradiation. Semiconductors, 2020, 54, 916-922.	0.2	1
103	Gallium nitride nanocrystal formation in Si3N4 matrix by ion synthesis. Bulletin of Materials Science, 2020, 43, 1.	0.8	1
104	Light-emitting hexagonal 9R-Si phase obtained by implantation of Kr⁺ ions in Si and SiO₂/Si. Journal of Physics: Conference Series, 2020, 1695, 012031.	0.3	1
105	The behaviour of mosaic blocks and electrical properties of polysilicon under ion implantation. Radiation Effects and Defects in Solids, 1993, 125, 181-184.	0.4	0
106	The Influence of Annealing Temperature and Doping on the Red/Near-Infrared Luminescence of Ion Implanted SiO2:nc-Si. Materials Research Society Symposia Proceedings, 2001, 692, 1.	0.1	0
107	Long-Range Effect of Light on the Microhardness of Annealed Molybdenum Foils. Technical Physics, 2005, 50, 1525.	0.2	0
108	Effect of the low-temperature (20â€“60Â°C) heating of silicon on its microhardness. Journal of Surface Investigation, 2013, 7, 1110-1113.	0.1	0

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109	Influence of the ion synthesis and ion doping regimes on the effect of sensitization of erbium emission by silicon nanoclusters in silicon dioxide films. Physics of the Solid State, 2013, 55, 2361-2367.	0.2	0
110	On the temperature dependence of silicon quantum dot photoluminescence. Russian Microelectronics, 2014, 43, 575-580.	0.1	0
111	On the mechanism of the narrowing and broadening of Kikuchi lines during long-range action. Journal of Surface Investigation, 2015, 9, 836-838.	0.1	0
112	Formation of fluorine-containing defects and nanocrystals in SiO2 upon implantation with fluorine, silicon, and germanium ions: Numerical simulation and photoluminescence spectroscopy. Physics of the Solid State, 2015, 57, 2164-2169.	0.2	0
113	Distribution of species and Gaâ€“N bonds in silicon co-implanted with gallium and nitrogen ions. AIP Conference Proceedings, 2016, , .	0.3	0
114	Biological verification of the long-range effect for silicon light irradiation for planaria. IOP Conference Series: Earth and Environmental Science, 2020, 433, 012009.	0.2	0