

# Goran Karapetrov

## List of Publications by Year in descending order

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131  
papers

3,680  
citations

159585

30  
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138484

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131  
all docs

131  
docs citations

131  
times ranked

4871  
citing authors

#	ARTICLE	IF	CITATIONS
1	Multimetallic Au/FePt <sub>3</sub> Nanoparticles as Highly Durable Electrocatalyst. Nano Letters, 2011, 11, 919-926.	9.1	435
2	Two-Band Superconductivity in MgB <sub>2</sub> . Physical Review Letters, 2002, 89, 187002.	7.8	306
3	Scanning Tunneling Spectroscopy in MgB <sub>2</sub> . Physical Review Letters, 2001, 86, 4374-4377.	7.8	185
4	Anisotropy of the upper critical field and critical current in single crystal MgB <sub>2</sub> . Physical Review B, 2002, 66, .	3.2	176
5	Selective catalysts for the hydrogen oxidation and oxygen reduction reactions by patterning of platinum with calix[4]arene molecules. Nature Materials, 2010, 9, 998-1003.	27.5	151
6	Unique Activity of Platinum Adislands in the CO Electrooxidation Reaction. Journal of the American Chemical Society, 2008, 130, 15332-15339.	13.7	142
7	Shape-Dependent Activity of Platinum Array Catalyst. Journal of the American Chemical Society, 2009, 131, 5732-5733.	13.7	134
8	Emergence of coherence in the charge-density wave state of 2H-NbSe <sub>2</sub> . Nature Communications, 2015, 6, 6313.	12.8	123
9	Electron-Phonon Coupling and the Soft Phonon Mode in $\text{TiSe}_2$ . Physical Review Letters, 2011, 107, 266401.	7.8	104
10	Direct Observation of Geometrical Phase Transitions in Mesoscopic Superconductors by Scanning Tunneling Microscopy. Physical Review Letters, 2005, 95, 167002.	7.8	92
11	Superconducting properties of sulfur-doped iron selenide. Physical Review B, 2015, 91, .	3.2	90
12	Superconducting transition and phase diagram of single-crystal MgB <sub>2</sub> . Physical Review B, 2003, 67, .	3.2	86
13	Guiding superconducting vortices with magnetic domain walls. Physical Review B, 2008, 77, .	3.2	81
14	Spontaneous gyrotropic electronic order in a transition-metal dichalcogenide. Nature, 2020, 578, 545-549.	27.8	80
15	Observation of a Charge Density Wave Incommensuration Near the Superconducting Dome in $\text{Cu}_x\text{TiSe}_2$ . Physical Review Letters, 2017, 118, 027002.	7.8	78
16	Control of vortex chirality and polarity in magnetic nanodots with broken rotational symmetry. Physical Review B, 2011, 84, .	3.2	57
17	Critical Points in Heavy Ion Irradiated Untwinned $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ Crystals. Physical Review Letters, 2000, 84, 3706-3709.	7.8	56
18	Modification of vortex behavior through heavy ion lithography. Physica C: Superconductivity and Its Applications, 2002, 382, 137-141.	1.2	56

#	ARTICLE	IF	CITATIONS
19	Imaging the spontaneous formation of vortex-antivortex pairs in planar superconductor/ferromagnet hybrid structures. <i>Physical Review B</i> , 2011, 84, .	3.2	49
20	Chiral Phase Transition in Charge Ordered $\text{TiSe}_2$ . <i>Physical Review Letters</i> , 2013, 110, 196404.	7.8	49
21	Ultra-high Photoresponsivity in Suspended Metal-Semiconductor-Metal Mesoscopic Multilayer MoS <sub>2</sub> Broadband Detector from UV-to-IR with Low Schottky Barrier Contacts. <i>Scientific Reports</i> , 2018, 8, 1276.	3.3	44
22	Effect of magnetic impurities on the vortex lattice properties in $\text{NbSe}_2$ crystals. <i>Physical Review B</i> , 2008, 78, .	3.2	40
23	Evolution of Metastable Defects and Its Effect on the Electronic Properties of MoS <sub>2</sub> Films. <i>Scientific Reports</i> , 2018, 8, 6724.	3.3	40
24	Transverse instabilities of multiple vortex chains in magnetically coupled $\text{NbSe}_2$ bilayers. <i>Physical Review B</i> , 2009, 80, .	3.2	38
25	Superconductor/ferromagnet bilayers: Influence of magnetic domain structure on vortex dynamics. <i>Physical Review B</i> , 2008, 77, .	3.2	37
26	Controlled Dynamics of Interfaces in a Vibrated Granular Layer. <i>Physical Review Letters</i> , 1999, 82, 731-734.	7.8	36
27	Evolution of the superconducting properties in $\text{FeSe}_1\text{Te}_x$ . <i>Physical Review B</i> , 2015, 92, .	3.2	35
28	Superconducting phase diagram of single-crystal MgB <sub>2</sub> . <i>Physica C: Superconductivity and Its Applications</i> , 2003, 385, 154-161.	1.2	34
29	Evolution of the charge density wave state in $\text{CuTiSe}_2$ . <i>Physical Review B</i> , 2012, 85, .	3.2	34
30	Tunable transport in magnetically coupled MoGe/Permalloy hybrids. <i>Applied Physics Letters</i> , 2008, 93, .	3.3	33
31	Visualizing domain wall and reverse domain superconductivity. <i>Nature Communications</i> , 2014, 5, 4766.	12.8	28
32	Dynamics of vortex nucleation in nanomagnets with broken symmetry. <i>Physical Review B</i> , 2012, 86, .	3.2	26
33	Superconductivity and hybrid soft modes in $\text{TiSe}_2$ . <i>Physical Review B</i> , 2016, 94, .	3.2	26
34	Room temperature deposition of superconducting niobium nitride films by ion beam assisted sputtering. <i>APL Materials</i> , 2018, 6, 076107.	5.1	26
35	Evidence for pseudo-Jahn-Teller distortions in the charge density wave phase of $\text{TiSe}_2$ . <i>Physical Review B</i> , 2020, 101, .	3.2	25
36	Vortex-antivortex coexistence in Nb-based superconductor/ferromagnet heterostructures. <i>Physical Review B</i> , 2014, 89, .	3.2	23

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37	Unconventional Applications of Superconducting Nanowire Single Photon Detectors. <i>Nanomaterials</i> , 2020, 10, 1198.	4.1	22
38	Oscillatory thickness dependence of the coercive field in magnetic three-dimensional antidot arrays. <i>Applied Physics Letters</i> , 2006, 88, 062511.	3.3	21
39	Heat capacity of single-crystal $\text{Cu}_x\text{TiSe}_2$ superconductors. <i>Physical Review B</i> , 2013, 88, .	3.2	20
40	Observation of superconducting vortex clusters in S/F hybrids. <i>Scientific Reports</i> , 2016, 6, 38557.	3.3	19
41	Critical currents of granular $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ superconductors. <i>Superconductor Science and Technology</i> , 1992, 5, 338-345.	3.5	18
42	Evidence of vortex jamming in Abrikosov vortex flux flow regime. <i>Physical Review B</i> , 2012, 86, .	3.2	18
43	Tuning the activity/stability balance of anion doped $\text{CoS Se}_2$ dichalcogenides. <i>Journal of Catalysis</i> , 2018, 366, 50-60.	6.2	17
44	Nanoporous metals from thermal decomposition of transition metal dichalcogenides. <i>Acta Materialia</i> , 2020, 184, 79-85.	7.9	17
45	Superconducting nanowires as high-rate photon detectors in strong magnetic fields. <i>Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment</i> , 2020, 959, 163543.	1.6	16
46	Contactless characterization of melt-textured superconducting junctions using micro-Hall sensor arrays. <i>Journal of Applied Physics</i> , 1999, 86, 6282-6286.	2.5	15
47	The effect of disorder on the critical points in the vortex phase diagram of YBCO. <i>Physica C: Superconductivity and Its Applications</i> , 2000, 332, 71-79.	1.2	15
48	Directional scanning tunneling spectroscopy in $\text{MgB}_2$ . <i>Physica C: Superconductivity and Its Applications</i> , 2003, 385, 215-220.	1.2	15
49	Magnetic elements for switching magnetization magnetic force microscopy tips. <i>Journal of Magnetism and Magnetic Materials</i> , 2010, 322, 2715-2721.	2.3	15
50	High resolution switching magnetization magnetic force microscopy. <i>Applied Physics Letters</i> , 2013, 102, .	3.3	15
51	Vortex-core properties and vortex-lattice transformation in $\text{FeSe}$ . <i>Physical Review B</i> , 2019, 99, .	3.2	15
52	Upper critical magnetic fields in single crystal $\text{MgB}_2$ . <i>Superconductor Science and Technology</i> , 2003, 16, 193-198.	3.5	14
53	$\text{MgB}_2$ : directional tunnelling and two-band superconductivity. <i>Superconductor Science and Technology</i> , 2003, 16, 156-161.	3.5	14
54	Characterization of off-axis $\text{MgB}_2$ epitaxial thin films for planar junctions. <i>Applied Physics Letters</i> , 2005, 87, 242506.	3.3	14

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55	The local effect of magnetic impurities on superconductivity in $\text{Co}_{1-x}\text{NbSe}_2$ and $\text{Mn}_{1-x}\text{NbSe}_2$ single crystals. Journal of Physics Condensed Matter, 2010, 22, 015501.	1.8	14
56	Fabrication and characterization of platinum nanoparticle arrays of controlled size, shape and orientation. Electrochimica Acta, 2010, 55, 7934-7938.	5.2	14
57	Photon-induced selenium migration in $\text{TiSe}_2$ . Applied Physics Letters, 2017, 110, .	3.3	12
58	Imaging of vortex states in mesoscopic superconductors. Applied Physics Letters, 2005, 87, 162515.	3.3	11
59	Magnetization properties and vortex phase diagram of $\text{Cu}_{1-x}\text{TiSe}_2$ single crystals. Physical Review B, 2013, 88, .	3.2	11
60	Anisotropic charge density wave in layered $\text{CuTl}(\text{As}_{1-x}\text{Sb}_x)_2$ single crystals. Physical Review Materials, 2017, 1, .	2.4	11
61	Approaching the pT range with a 2DEG InGaAs/InP Hall sensor at 77 K. Microelectronic Engineering, 2000, 51-52, 333-342.	2.4	10
62	Ultrafast dynamics in the high-symmetry and in the charge density wave phase of $\text{CaFe}_2\text{As}_2$ . Physical Review B, 2020, 102, .	3.2	10
63	STM tunneling spectroscopic studies of $\text{YNd}_x\text{Ba}_{2-x}\text{Cu}_3\text{O}_{7-x}$ thin films. Physical Review B, 2002, 65, .	3.2	9
64	Anisotropic superconducting phase diagram of $\text{C}_6\text{Ca}$ . Physica C: Superconductivity and Its Applications, 2006, 439, 43-46.	1.2	9
65	First critical fields, critical currents and flux creep of $\text{TmBa}_2\text{Cu}_3\text{O}_x$ and $\text{YBa}_2\text{Cu}_3\text{O}_x$ superconducting single crystals. Journal of Magnetism and Magnetic Materials, 1990, 90-91, 611-614.	2.3	8
66	Muon spin rotation study of the magnetic penetration depth in the intercalated graphite superconductor $\text{CaC}_6$ . Physical Review B, 2010, 82, .	3.2	8
67	Asymmetry in Time Evolution of Magnetization in Magnetic Nanostructures. Scientific Reports, 2015, 5, 12301.	3.3	8
68	STM tunnelling spectroscopy in $\text{MgB}_2$ thin films: the role of band structure in tunnelling spectra. Superconductor Science and Technology, 2004, 17, S106-S111.	3.5	7
69	Novel Magnetic Tips Developed for the Switching Magnetization Magnetic Force Microscopy. Journal of Nanoscience and Nanotechnology, 2010, 10, 4477-4481.	0.9	7
70	Giant conductance anisotropy in magnetically coupled Ferromagnet-Superconductor-Ferromagnet structures. Applied Physics Letters, 2010, 96, 092513.	3.3	7
71	Vortex Confinement in Planar Superconductor/Ferromagnet Hybrid Structures. IEEE Transactions on Magnetics, 2012, 48, 3275-3279.	2.1	7
72	The influence of shape anisotropy on vortex nucleation in Pacman-like nanomagnets. Journal of Magnetism and Magnetic Materials, 2013, 336, 29-36.	2.3	7

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73	Modeling Iridium-Based Trilayer and Bilayer Transition-Edge Sensors. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-5.	1.7	7
74	Controlling $T_c$ of iridium films using the proximity effect. Journal of Applied Physics, 2020, 128, .	2.5	7
75	Reconfigurable lateral anionic heterostructures in oxide thin films via lithographically defined topochemistry. Physical Review Materials, 2019, 3, .	2.4	7
76	Oscillatory thickness dependence of the coercive field in three-dimensional anti-dot arrays from self-assembly. Journal of Applied Physics, 2005, 97, 10J701.	2.5	6
77	Superconducting and normal state parameters of single crystal. Solid State Communications, 2011, 151, 227-228.	1.9	6
78	Influence of Domain Width on Vortex Nucleation in Superconductor/Ferromagnet Hybrid Structures. Journal of Superconductivity and Novel Magnetism, 2015, 28, 1107-1110.	1.8	6
79	Magnetic and thermodynamic properties of $Cu_xNi_{1-x}$ single crystals. Physical Review B, 2017, 95, .		
80	Quantitative magnetic force microscopy using calibration on superconducting flux quanta. Nanotechnology, 2019, 30, 314004.	2.6	6
81	Adjustable Superconducting Anisotropy in Superconductor-Ferromagnet Bilayers. IEEE Transactions on Applied Superconductivity, 2009, 19, 3471-3474.	1.7	5
82	STM studies of $Co_xNi_{1-x}NbSe_2$ and $Mn_xNi_{1-x}NbSe_2$ . Journal of Physics: Conference Series, 2009, 150, 052073.	0.4	5
83	Visualizing Vortex Dynamics in Py/Nb Thin Film Hybrids by Low Temperature Magnetic Force Microscopy. Journal of Superconductivity and Novel Magnetism, 2012, 25, 2167-2171.	1.8	5
84	Doppler-scanning tunneling microscopy current imaging in superconductor-ferromagnet hybrids. Applied Physics Letters, 2016, 108, .	3.3	5
85	Photoinduced chiral charge density wave in $TiSe_2$ . Physical Review B, 2022, 105, .		
86	Magnetic field and temperature dependence of critical current and magnetization in $YBa_2Cu_3O_{7-\delta}$ ceramics. Physica B: Condensed Matter, 1991, 169, 661-662.	2.7	4
87	Superconducting phase diagram of single crystal $MgB_2$ . Physica C: Superconductivity and Its Applications, 2003, 387, 137-142.	1.2	4
88	Shape-induced anisotropy in antidot arrays from self-assembled templates. IEEE Transactions on Magnetics, 2005, 41, 3598-3600.	2.1	4
89	Self-assembly routes towards creating superconducting and magnetic arrays. Journal of Low Temperature Physics, 2005, 139, 339-349.	1.4	4
90	Magnetic pinning in a superconducting film by a ferromagnetic layer with stripe domains. Superconductor Science and Technology, 2014, 27, 125002.	3.5	4

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91	Observation of a transverse Meissner effect in $\text{Cu}_x\text{TiSe}_2$ single crystals. <i>Physical Review B</i> , 2016, 93, .	3.2	4
92	The peak-effect in untwinned $\text{TmBa}_2\text{Cu}_3\text{O}_x$ single crystals. <i>Physica C: Superconductivity and Its Applications</i> , 1991, 185-189, 2431-2432.	1.2	3
93	Evidence for three-dimensional flux creep in thin-film $\text{Bi}_2\text{Sr}_2\text{CaCu}_2\text{O}_{8+\delta}$ . <i>Physical Review B</i> , 1995, 52, 3776-3783.	3.2	3
94	Contactless characterization of melt-textured superconducting junctions using micro-Hall sensor arrays. <i>Physica B: Condensed Matter</i> , 2000, 284-288, 2065-2066.	2.7	3
95	Momentum-dependent scanning tunneling spectroscopy in $\text{MgB}_2$ . <i>Physica C: Superconductivity and Its Applications</i> , 2003, 388-389, 141-142.	1.2	3
96	Self-assembly Routes towards Creating Superconducting and Magnetic Arrays. <i>Journal of Low Temperature Physics</i> , 2005, 139, 339-349.	1.4	3
97	In-plane anisotropy of coercive field in permalloy square ring arrays. <i>Journal of Applied Physics</i> , 2006, 99, 08Q508.	2.5	3
98	Anisotropy of Magnetization Reversal and Magnetoresistance in Square Arrays of Permalloy Nano-Rings. <i>IEEE Transactions on Magnetics</i> , 2006, 42, 2948-2950.	2.1	3
99	Novel Hall sensors developed for magnetic field imaging systems. <i>Journal of Magnetism and Magnetic Materials</i> , 2007, 316, 232-235.	2.3	3
100	Adjustable superconducting anisotropy in $\text{MoGe}$ -Permalloy hybrids. <i>Journal of Physics: Conference Series</i> , 2009, 150, 052095.	0.4	3
101	Spectroscopic fingerprints of many-body renormalization in $\text{Cu}_x\text{TiSe}_2$ . <i>Physical Review B</i> , 2019, 100, .	3.2	2
102	Magnetic field dependence of ceramics critical current and magnetization in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ . <i>Journal of Magnetism and Magnetic Materials</i> , 1990, 90-91, 644-646.	2.3	2
103	Effect of defects on the critical points in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ . <i>Physica C: Superconductivity and Its Applications</i> , 2000, 341-348, 953-956.	1.2	2
104	New transition in the vortex liquid state of $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ . <i>Physica C: Superconductivity and Its Applications</i> , 2006, 437-438, 176-179.	1.2	2
105	The spectroscopic signature of the Co magnetic state in $\text{Co}_x\text{NbSe}_2$ superconducting single crystals. <i>Superconductor Science and Technology</i> , 2011, 24, 024010.	3.5	2
106	Anisotropic Superconductivity and Vortex Dynamics in Magnetically Coupled F/S and F/S/F Hybrids. <i>Journal of Superconductivity and Novel Magnetism</i> , 2011, 24, 905-910.	1.8	2
107	Local Magnetometry of $\text{Cu}_{0.064}\text{TiSe}_2$ . <i>Acta Physica Polonica A</i> , 2014, 126, 370-371.	0.5	2
108	Anisotropic Superconducting Gaps and Boson Mode in $\text{FeSe}_{1-x}\text{S}_x$ Single Crystals. <i>Journal of Superconductivity and Novel Magnetism</i> , 2017, 30, 763-768.	1.8	2

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109	The anomalous magnetization of TmBa <sub>2</sub> Cu <sub>3</sub> O <sub>x</sub> superconducting single crystals. Physica B: Condensed Matter, 1991, 169, 653-654.	2.7	1
110	Phase Diagram of Single Crystal MgB <sub>2</sub> . Journal of Low Temperature Physics, 2003, 131, 1237-1244.	1.4	1
111	Anisotropic pinning in the vortex liquid phase of YBCO. Physica C: Superconductivity and Its Applications, 2005, 426-431, 14-17.	1.2	1
112	Fabrication of platinum nano-array model catalyts. , 2006, 6340, 274.		1
113	Optically activated high T <sub>c</sub> superconducting microbolometer. Journal of Physics: Conference Series, 2006, 43, 1342-1345.	0.4	1
114	Direct observation of vortex lattice transitions in mesoscopic superconducting single crystals using STM. Physica C: Superconductivity and Its Applications, 2006, 437-438, 127-131.	1.2	1
115	Switching of magnetic domains in Permalloy microstructures using two-dimensional electron gas. Applied Physics Letters, 2006, 89, 182513.	3.3	1
116	Vortex lattice transitions in artificially engineered NbSe <sub>2</sub> single crystals observed by STM. Physica C: Superconductivity and Its Applications, 2007, 460-462, 952-953.	1.2	1
117	Micromagnetic Simulations of Pac-Man-Like Nanomagnets for Memory Applications. Journal of Nanoscience and Nanotechnology, 2012, 12, 7422-7425.	0.9	1
118	Specific Heat Study of Superconductivity in Cu <sub>1-x</sub> TiSe <sub>2</sub> . Acta Physica Polonica A, 2014, 126, 322-323.	0.5	1
119	Metastable defects in monolayer and few-layer films of MoS <sub>2</sub> . AIP Conference Proceedings, 2018, , .	0.4	1
120	Magnetic properties of YBa <sub>2</sub> Cu <sub>3</sub> O <sub>x</sub> monocrystalline epitaxial superconducting films. Physica C: Superconductivity and Its Applications, 1991, 185-189, 1927-1928.	1.2	0
121	Field dependence of the current-voltage characteristics of thin-film YBaCuO at low magnetic fields. Physica B: Condensed Matter, 1994, 194-196, 1889-1890.	2.7	0
122	Disordered Vortex Phases in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-<math>\delta</math></sub> . Journal of Superconductivity and Novel Magnetism, 2000, 13, 741-748.	0.5	0
123	STM Observation of Vortex Lattice Transitions in Superconducting Single Crystals with Periodic Pinning Arrays. AIP Conference Proceedings, 2006, , .	0.4	0
124	STM Imaging of Vortices in FIB-Sculptured Mesoscopic Superconductors. Microscopy and Microanalysis, 2006, 12, 990-991.	0.4	0
125	Anisotropy of Magnetization Reversal and Magnetoresistance in Square Arrays of Permalloy Nano-Rings. , 2006, , .		0
126	Fine Tuning of Activity for Nanoscale Catalysts. ECS Transactions, 2008, 16, 1151-1160.	0.5	0

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127	Field polarity dependent nucleation of superconductivity in quasi-one-dimensional magnetic templates. <i>Physica C: Superconductivity and Its Applications</i> , 2010, 470, 860-862.	1.2	0
128	Dimensionality crossover in vortex dynamics of magnetically coupled F <sup>0</sup> S <sup>0</sup> F hybrids. <i>Superconductor Science and Technology</i> , 2011, 24, 024012.	3.5	0
129	Magnetization Studies of Cu <sub>0.058</sub> TiSe <sub>2</sub> Near a Quantum Critical Point. <i>Acta Physica Polonica A</i> , 2014, 126, 336-337.	0.5	0
130	MoS <sub>2</sub> synthesis and high-performance broadband photodetector. , 2016, , .		0
131	Observation of Anisotropic Charge Density Wave in Layered 1T-TiSe <sub>2</sub> . <i>Microscopy and Microanalysis</i> , 2018, 24, 230-231.	0.4	0