

# Ilia Radulov

## List of Publications by Year in descending order

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63  
papers

1,607  
citations

430874

18  
h-index

302126

39  
g-index

64  
all docs

64  
docs citations

64  
times ranked

1455  
citing authors

#	ARTICLE	IF	CITATIONS
1	A quantitative criterion for determining the order of magnetic phase transitions using the magnetocaloric effect. <i>Nature Communications</i> , 2018, 9, 2680.	12.8	273
2	Mastering hysteresis in magnetocaloric materials. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2016, 374, 20150308.	3.4	210
3	Making a Cool Choice: The Materials Library of Magnetic Refrigeration. <i>Advanced Energy Materials</i> , 2019, 9, 1901322.	19.5	140
4	Towards high-performance permanent magnets without rare earths. <i>Journal of Physics Condensed Matter</i> , 2014, 26, 064205.	1.8	91
5	On the preparation of La(Fe,Mn,Si)13H polymer-composites with optimized magnetocaloric properties. <i>Journal of Magnetism and Magnetic Materials</i> , 2015, 396, 228-236.	2.3	73
6	Heat exchangers made of polymer-bonded La(Fe,Si)13. <i>Journal of Applied Physics</i> , 2014, 115, .	2.5	66
7	Magnetic properties of $\text{La}(\text{Fe},\text{Mn},\text{Si})_{13}$ alloys and the effect of doping by $\text{Co}$ . <i>Physical Review B</i> , 2015, 92, .	3.2	62
8	A Matter of Size and Stress: Understanding the First-Order Transition in Materials for Solid-State Refrigeration. <i>Advanced Functional Materials</i> , 2017, 27, 1606735.	14.9	55
9	The role of Ni in modifying the order of the phase transition of La(Fe,Ni,Si)13. <i>Acta Materialia</i> , 2018, 160, 137-146.	7.9	45
10	Tunable first order transition in La(Fe,Cr,Si)13 compounds: Retaining magnetocaloric response despite a magnetic moment reduction. <i>Acta Materialia</i> , 2019, 175, 406-414.	7.9	45
11	Evidence for filamentary superconductivity nucleated at antiphase domain walls in antiferromagnetic $\text{CaFe}(\text{As},\text{P})_{13}$ . <i>Physical Review B</i> , 2012, 85, .	3.2	44
12	Predicting the tricritical point composition of a series of LaFeSi magnetocaloric alloys via universal scaling. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 414004.	2.8	38
13	Prospects of additive manufacturing of rare-earth and non-rare-earth permanent magnets. <i>Procedia Manufacturing</i> , 2018, 21, 100-108.	1.9	37
14	Twins – A weak link in the magnetic hardening of ThMn12-type permanent magnets. <i>Acta Materialia</i> , 2021, 214, 116968.	7.9	31
15	Polymer-Bonded La(Fe,Mn,Si) <sub>13</sub> H <sub>2</sub> Plates for Heat Exchangers. <i>IEEE Transactions on Magnetics</i> , 2015, 51, 1-4.	2.1	28
16	Rapid solidification of Nd <sub>1-x</sub> Fe <sub>11</sub> Ti compounds: Phase formation and magnetic properties. <i>Acta Materialia</i> , 2019, 180, 15-23.	7.9	24
17	Pressure Dependence of Magnetic Properties in $\text{La}(\text{Fe},\text{Mn},\text{Si})_{13}$ : Multistimulus Responsiveness of Caloric Effects by Modeling and Experiment. <i>Physical Review Applied</i> , 2020, 13, .	3.8	22
18	Plastically deformed Gd-X (X = Y, In, Zr, Ga, B) solid solutions for magnetocaloric regenerator of parallel plate geometry. <i>Journal of Alloys and Compounds</i> , 2018, 754, 207-214.	5.5	19

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19	Magnetic Refrigeration with Recycled Permanent Magnets and Free Rare-Earth Magnetocaloric La <sub>1-x</sub> Fe <sub>x</sub> Si. Energy Technology, 2020, 8, 1901025.	3.8	17
20	Low-temperature ferroelectric phase and magnetolectric coupling in underdoped La <sub>2-x</sub> CuO <sub>4</sub> . Physical Review B, 2012, 85, .	3.2	16
21	Magnetic Properties of (Fe,Co) <sub>2</sub> B Alloys With Easy-Axis Anisotropy. IEEE Transactions on Magnetics, 2014, 50, 1-4.	2.1	16
22	Colossal magnetostriction effect in HoMn <sub>2</sub> O <sub>5</sub> . European Physical Journal B, 2006, 52, 361-364.	1.5	15
23	Heat Exchangers From Metal-Bonded La(Fe,Mn,Si) <sub>13</sub> H <sub>x</sub> Powder. IEEE Transactions on Magnetics, 2017, 53, 1-7.	2.1	15
24	Influence of hydrogenation on the vibrational density of states of magnetocaloric LaFe <sub>1-x</sub> Si <sub>x</sub> H. Physical Review B, 2020, .	3.2	15
25	Magnetic anisotropy of La <sub>2</sub> Co <sub>7</sub> . Journal of Applied Physics, 2015, 118, .	2.5	14
26	Magnetocaloric effect in cold rolled foils of Gd <sub>100-x</sub> In <sub>x</sub> (x=0, 1, 3). Journal of Magnetism and Magnetic Materials, 2018, 459, 46-48.	2.3	13
27	Exchange stiffness of ferromagnets. European Physical Journal Plus, 2020, 135, 1.	2.6	13
28	Accelerated crystallization and phase formation in Fe <sub>40</sub> Ni <sub>40</sub> B <sub>20</sub> by electric current assisted annealing technique. Journal of Alloys and Compounds, 2020, 836, 153338.	5.5	12
29	Ferrimagnetism, exchange bias and spin-glass property of disordered La <sub>2</sub> CrNiO <sub>6</sub> . Journal of Magnetism and Magnetic Materials, 2020, 508, 166873.	2.3	12
30	ε-In situ magnetic modification of polar elastomers. Materials Research Bulletin, 2001, 36, 35-45.	5.2	11
31	Determination of the crystal field parameters in Sm <sub>2</sub> Fe <sub>10</sub> Mn. Physical Review B, 2020, 102, .	3.2	11
32	Formation of pure Au-phase in Mn-Al-C by fast annealing using spark plasma sintering. Journal of Materials Science, 2022, 57, 6056-6065.	3.7	10
33	Low-Temperature Phase <i>c</i> -axis Oriented Manganese Bismuth Thin Films With High Anisotropy Grown From an Alloy Mn <sub>55</sub> Bi <sub>45</sub> Target. IEEE Transactions on Magnetics, 2017, 53, 1-6.	2.1	9
34	Correlation of Interface Structure with Magnetic Exchange in a Hard/Soft Magnetic Model Nanostructure. Physical Review Applied, 2019, 11, .	3.8	9
35	Microstructure and magnetic properties of Mn-Al-C permanent magnets produced by various techniques. Manufacturing Review, 2021, 8, 10.	1.5	9
36	Investigations of the Alignment Process of PBPMLG: <sup>2</sup> H NMR Analysis Reveals a Thermoresponsive 90° Flip of the Polymer. Angewandte Chemie - International Edition, 2021, 60, 21040-21046.	13.8	9

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37	Environmetric approaches for lake pollution assessment. Environmental Monitoring and Assessment, 2010, 164, 233-248.	2.7	8
38	Combined kinetic and Bean-Rodbell approach for describing field-induced transitions in $\text{LaFe}_{11.6}\text{Si}_{1.4}$ alloys. Journal Physics D: Applied Physics, 2021, 54, 135003.	2.8	8
39	Magneto and ferroelectric phase transitions in monocrystals. Journal of Magnetism and Magnetic Materials, 2008, 320, 43-46.	2.3	6
40	Theory of the magnetoelectric effect in a lightly doped high-Tccuprate. Physical Review B, 2012, 85, .	3.2	6
41	CeCo5 thin films with perpendicular anisotropy grown by molecular beam epitaxy. Journal of Magnetism and Magnetic Materials, 2018, 452, 80-85.	2.3	6
42	Evolution of anisotropy in bcc Fe distorted by interstitial boron. Physical Review B, 2018, 97, .	3.2	6
43	Epitaxy Induced Highly Ordered $\text{Sm}_2\text{Co}_{17}$ $\text{SmCo}_5$ Nanoscale Thin-Film Magnets. ACS Applied Materials & Interfaces, 2021, 13, 32415-32423.	8.0	6
44	Direct observation of paramagnetic spin fluctuations in $\text{LaFe}_{13-x}\text{Si}_x$ . Journal of Physics Condensed Matter, 2020, 32, 115802.	1.8	5
45	$\text{YCo}_5$ thin films with perpendicular anisotropy grown by molecular beam epitaxy. Journal of Magnetism and Magnetic Materials, 2017, 432, 382-386.		
46	Evolution of Magnetic Anisotropy With Sm Contents in $\text{SmCo}$ Thin Films. IEEE Transactions on Magnetics, 2018, 54, 1-5.	2.1	4
47	Anomalous Hall effect in $\text{La}_2\text{CuO}_4$ compounds. Physical Review B, 2019, 100, .		
48	A Three-Dimensional Analysis of Magnetic Nanopattern Formation in FeRh Thin Films on MgO Substrates: Implications for Spintronic Devices. ACS Applied Nano Materials, 2022, 5, 5516-5526.	5.0	4
49	Magnetostriction in orthorhombic manganites. Journal of Physics: Conference Series, 2009, 153, 012064.	0.4	3
50	Bi-Quadratic Magnetoelectric Coupling in Underdoped $\text{La}_2\text{CuO}_{4+x}$ . Journal of Superconductivity and Novel Magnetism, 2013, 26, 1649-1652.	1.8	2
51	Induction of uniaxial anisotropy by controlled phase separation in Y-Co thin films. Physical Review B, 2020, 102, .	3.2	2
52	The impact of Pr and Nd substitution on structure, hysteresis and magnetocaloric properties of $\text{La}_{1-x}(\text{Pr,Nd})_x\text{Fe}_{11.6}\text{Si}_{1.4}$ . Journal Physics D: Applied Physics, 2021, 54, 225001.	2.8	2
53	Some Medical Applications of Nanomaterials. Solid State Phenomena, 2010, 159, 185-188.	0.3	1
54	Dynamic unidirectional anisotropy in cubic FeGe with antisymmetric spin-spin-coupling. Scientific Reports, 2020, 10, 2861.	3.3	1

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55	Simultaneous Multi-Property Probing During Magneto-Structural Phase Transitions: An Element-Specific and Macroscopic Hysteresis Characterization at ID12 of the ESRF. IEEE Transactions on Instrumentation and Measurement, 2022, 71, 1-9.	4.7	1
56	Neutron-scattering experiment on solid $^3\text{He}$ . Applied Physics A: Materials Science and Processing, 2002, 74, s837-s839.	2.3	0
57	Magnetic properties of $\text{La}_{0.78}\text{Pb}_{0.22}\text{MnO}_3$ monocrystal. AIP Conference Proceedings, 2007, , .	0.4	0
58	Magnetic properties of $\text{HoMn}_2\text{O}_5$ . AIP Conference Proceedings, 2007, , .	0.4	0
59	A miniature capacitance dilatometer for magnetostriction and thermal expansion measurements. Journal of Physics: Conference Series, 2010, 253, 012072.	0.4	0
60	Polymer-bonded $\text{La}(\text{Fe}, \text{Mn}, \text{Si})_{13}\text{H}_x$ heat exchangers with optimized magnetocaloric properties. , 2015, , .		0
61	Electrotransport Properties of the $\text{La}(\text{Fe}_{1-x}\text{Co}_x\text{Si}_y\text{O}_3)$ Compounds. Materials Science Forum, 0, 845, 50-55.		0
62	Investigations of the Alignment Process of PBPMLG: $^2\text{H}$ NMR Analysis Reveals a Thermoresponsive $90^\circ$ Flip of the Polymer. Angewandte Chemie, 2021, 133, 21208-21214.	2.0	0
63	Charge-transfer driven ferromagnetism in a disordered three-dimensional 3d-5d spin system. Journal of Magnetism and Magnetic Materials, 2021, 539, 168330.	2.3	0