

Valery M Uzdin

List of Publications by Year in descending order

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394286

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docs citations

131
times ranked

1010
citing authors

#	ARTICLE	IF	CITATIONS
1	Lifetime of skyrmions in discrete systems with infinitesimal lattice constant. Journal of Magnetism and Magnetic Materials, 2022, 549, 168974.	1.0	5
2	Topological structures in chiral media: Effects of confined geometry. Physical Review E, 2022, 105, 034701.	0.8	4
3	Optimal protocol for spin-orbit torque switching of a perpendicular nanomagnet. Physical Review B, 2022, 105, .	1.1	4
4	Fast and robust algorithm for energy minimization of spin systems applied in an analysis of high temperature spin configurations in terms of skyrmion density. Computer Physics Communications, 2021, 260, 107749.	3.0	13
5	Hysteresis and Fréedericksz thresholds for twisted states in chiral nematic liquid crystals: Minimum-energy path approach. Journal of Molecular Liquids, 2021, 325, 115242.	2.3	3
6	Stability and Lifetimes of Magnetic States of Nano- and Microstructures (Brief Review). JETP Letters, 2021, 113, 801-813.	0.4	10
7	The lifetime of micron scale topological chiral magnetic states with atomic resolution. Computer Physics Communications, 2021, 269, 108136.	3.0	9
8	Stability of long-lived antiskyrmions in the Mn-Pt-Sn tetragonal Heusler material. Physical Review B, 2020, 102, .	1.1	9
9	Stability of in-plane and out-of-plane chiral skyrmions in epitaxial MnSi(111)/Si(111) thin films: Surface twists versus easy-plane anisotropy. Physical Review B, 2020, 102, .	1.1	7
10	Efficient optimization method for finding minimum energy paths of magnetic transitions. Journal of Physics Condensed Matter, 2020, 32, 345901.	0.7	12
11	Skyrmion flop transition and congregation of mutually orthogonal skyrmions in cubic helimagnets. Journal of Physics Condensed Matter, 2020, 32, 185801.	0.7	10
12	Skyrmions in antiferromagnets: Thermal stability and the effect of external field and impurities. Journal of Applied Physics, 2020, 127, 213906.	1.1	19
13	Magnetic skyrmion annihilation by quantum mechanical tunneling. New Journal of Physics, 2020, 22, 083013.	1.2	6
14	Fully self-consistent calculations of magnetic structure within non-collinear Alexander-Anderson model. Nanosystems: Physics, Chemistry, Mathematics, 2020, 11, 65-77.	0.2	2
15	Demagnetizing fields in chiral magnetic structures. Nanosystems: Physics, Chemistry, Mathematics, 2020, 11, 401-407.	0.2	0
16	Nonmagnetic impurities in skyrmion racetrack memory. Nanosystems: Physics, Chemistry, Mathematics, 2020, 11, 628-635.	0.2	1
17	Fine energy structure of a magnetic skyrmion localized on a nonmagnetic impurity in an external magnetic field. Physics of Complex Systems, 2020, 1, 165-168.	0.2	0
18	Real-space observation of skyrmion clusters with mutually orthogonal skyrmion tubes. Physical Review B, 2019, 100, .	1.1	28

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19	Multiple minimum-energy paths and scenarios of unwinding transitions in chiral nematic liquid crystals. <i>Physical Review E</i> , 2019, 100, 062704.	0.8	5
20	Lifetime of racetrack skyrmions. <i>Scientific Reports</i> , 2018, 8, 3433.	1.6	127
21	Energy surface and lifetime of magnetic skyrmions. <i>Journal of Magnetism and Magnetic Materials</i> , 2018, 459, 236-240.	1.0	33
22	The effect of confinement and defects on the thermal stability of skyrmions. <i>Physica B: Condensed Matter</i> , 2018, 549, 6-9.	1.3	31
23	Duplication, Collapse, and Escape of Magnetic Skyrmions Revealed Using a Systematic Saddle Point Search Method. <i>Physical Review Letters</i> , 2018, 121, 197202.	2.9	36
24	Topological Hall effect for electron scattering on nanoscale skyrmions in external magnetic field. <i>Physical Review B</i> , 2018, 98, .	1.1	8
25	Models of the energy landscape for an element of shakti spin ice. <i>Nanosystems: Physics, Chemistry, Mathematics</i> , 2018, 9, 711-715.	0.2	0
26	Magnetic exchange force microscopy: theoretical analysis of induced magnetization reversals. <i>Nanoscale</i> , 2017, 9, 13320-13325.	2.8	12
27	Energy surface and transition rates in a hexagonal element of spin ice. <i>Journal of Physics: Conference Series</i> , 2017, 903, 012006.	0.3	0
28	The effect of temperature and external field on transitions in elements of kagome spin ice. <i>New Journal of Physics</i> , 2017, 19, 113008.	1.2	9
29	Calculations of the onset temperature for tunneling in multispin systems. <i>Nanosystems: Physics, Chemistry, Mathematics</i> , 2017, , 454-461.	0.2	4
30	Truncated minimum energy path method for finding first order saddle points. <i>Nanosystems: Physics, Chemistry, Mathematics</i> , 2017, , 586-595.	0.2	9
31	Instantons describing tunneling between magnetic states at finite temperature. <i>Nanosystems: Physics, Chemistry, Mathematics</i> , 2017, , 746-759.	0.2	2
32	Thermal stability of magnetic states in submicron magnetic islands. <i>Nanosystems: Physics, Chemistry, Mathematics</i> , 2017, , 572-578.	0.2	1
33	Calculations of switching field and energy barrier for magnetic islands with perpendicular anisotropy. <i>Nanosystems: Physics, Chemistry, Mathematics</i> , 2017, , 701-708.	0.2	0
34	Tip-surface interaction and rate of magnetic transitions. <i>Journal of Physics: Conference Series</i> , 2016, 741, 012184.	0.3	0
35	Crossover temperature for quantum tunnelling in spin systems. <i>Journal of Physics: Conference Series</i> , 2016, 741, 012183.	0.3	1
36	Rate of thermal transitions in kagome spin ice. <i>Journal of Physics: Conference Series</i> , 2016, 741, 012182.	0.3	0

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37	Classical to quantum mechanical tunneling mechanism crossover in thermal transitions between magnetic states. Faraday Discussions, 2016, 195, 93-109.	1.6	13
38	Investigation of critical phenomena of the hard/soft magnetic bilayer model by the Monte-Carlo method. Journal of Alloys and Compounds, 2016, 678, 167-170.	2.8	6
39	Mechanism and activation energy of magnetic skyrmion annihilation obtained from minimum energy path calculations. Physical Review B, 2016, 94, .	1.1	83
40	Energy surface and minimum energy paths for Fréedericksz transitions in bistable cholesteric liquid crystals. Physical Review E, 2016, 93, 042708.	0.8	6
41	Qualitative insight and quantitative analysis of the effect of temperature on the coercivity of a magnetic system. AIP Advances, 2016, 6, 025213.	0.6	10
42	Method for finding mechanism and activation energy of magnetic transitions, applied to skyrmion and antivortex annihilation. Computer Physics Communications, 2015, 196, 335-347.	3.0	160
43	Magnetic-state control in a 3d dimer on a metallic substrate. Journal of Surface Investigation, 2015, 9, 540-545.	0.1	1
44	Template assisted self-assembly of iron oxide nanoparticles: An x-ray structural analysis. Journal of Applied Physics, 2014, 115, 054104.	1.1	4
45	Manipulation by exchange coupling in layered magnetic structures. Journal of Applied Physics, 2014, 115, 053913.	1.1	8
46	Calculations of magnetic states and minimum energy paths of transitions using a noncollinear extension of the Alexander-Anderson model and a magnetic force theorem. Physical Review B, 2014, 89, .	1.1	17
47	Noncollinear magnetic ordering in a magnetic dimer supported on a metallic substrate. Bulletin of the Russian Academy of Sciences: Physics, 2013, 77, 56-59.	0.1	2
48	Evolution of the electronic density of Ni d-states in Ti-Ni alloys with a change in the concentration of the components. Physics of the Solid State, 2013, 55, 1364-1367.	0.2	1
49	Effect of hydrogen adsorption on the magnetic properties of a surface nanocluster of iron. Physical Review B, 2013, 88, .	1.1	12
50	Size and Shape Dependence of Thermal Spin Transitions in Nanoislands. Physical Review Letters, 2013, 110, 020604.	2.9	32
51	Magnetization reversal process at atomic scale in systems with itinerant electrons. Journal of Physics Condensed Matter, 2012, 24, 176002.	0.7	2
52	Study of magnetization of a bilayer nanostructure CoCu/Co (GF/F) by polarized neutron reflectometry. Journal of Physics: Conference Series, 2012, 340, 012085.	0.3	4
53	Noncollinear Fe spin structure in (Sm-Co)/Fe exchange-spring bilayers: Layer-resolved μ -SR spectroscopy and electronic structure calculations. Physical Review B, 2012, 85, .	1.1	31
54	Harmonic transition-state theory of thermal spin transitions. Physical Review B, 2012, 85, .	1.1	77

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55	Investigating phase transitions in a model Fe/V magnetic superlattice. Bulletin of the Russian Academy of Sciences: Physics, 2010, 74, 1446-1448.	0.1	3
56	Separation of the diffuse contribution to the specular x-ray scattering of multilayer films. Physical Review B, 2010, 82, .	1.1	8
57	10.1007/s11451-008-2022-z. , 2010, 50, 353.		0
58	Transition from spin-density-wave to layered antiferromagnetic state induced by hydrogen as a test for the origin of spin-density waves in chromium. Physical Review B, 2009, 80, .	1.1	9
59	Investigation of Magnetic and Thermal Properties of Model Fe/V Superlattices. Solid State Phenomena, 2009, 152-153, 551-554.	0.3	0
60	Response of Mn overlayers on Fe to external magnetic fields: Electronic structure calculations. Surface Science, 2009, 603, 2537-2543.	0.8	3
61	Layer-heterogeneous magnetic states in metallic nanosystems. Physics of the Solid State, 2009, 51, 150-155.	0.2	0
62	Diffuse contribution to specular spectra and the specular contribution to diffuse spectra in X-ray scattering from rough interfaces. Physics of the Solid State, 2009, 51, 1923-1928.	0.2	0
63	Effect of bidimensional Fe clusters on magnetic properties of Fe/Cr superlattices. Journal of Magnetism and Magnetic Materials, 2008, 320, 292-298.	1.0	1
64	Information on in- and out-of-plane correlated roughness in multilayers from x-ray specular reflectivity. Journal Physics D: Applied Physics, 2008, 41, 115401.	1.3	7
65	Effect of the interface roughness in multilayer systems on x-ray scattering spectra. Physics of the Solid State, 2008, 50, 353-359.	0.2	0
66	The magnetization reversal process in spin spring magnets. Nanotechnology, 2008, 19, 315401.	1.3	14
67	Electronic structure investigation of the exchange-spring behavior during the magnetic reversal process. Physical Review B, 2008, 77, .	1.1	5
68	Atomic scale interface structure in metallic superlattices. Journal of Physics Condensed Matter, 2007, 19, 136201.	0.7	10
69	Remote control of the Fe magnetic moment in magnetic heterostructures. Europhysics Letters, 2007, 79, 37003.	0.7	21
70	Electronic transport in the multilayers with very thin magnetic layers. Physica E: Low-Dimensional Systems and Nanostructures, 2007, 36, 12-16.	1.3	5
71	Mössbauer spectroscopy and the structure of interfaces on the atomic scale in metallic nanosystems. Physics of Metals and Metallography, 2007, 104, 326-334.	0.3	0
72	Features of the magnetic state of the layered Fe-V nanostructure of the superconductor-ferromagnet type. Crystallography Reports, 2007, 52, 381-386.	0.1	8

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73	Intermixing during epitaxial growth and Mössbauer spectroscopy with probe layers. <i>Hyperfine Interactions</i> , 2007, 169, 1379-1382.	0.2	0
74	Intermixing during epitaxial growth and Mössbauer spectroscopy with probe layers. , 2007, , 1379-1382.		0
75	Magnetism of Cr surface defects. <i>Computational and Theoretical Chemistry</i> , 2006, 777, 29-33.	1.5	3
76	Effect of the interface structure in multilayered systems on x-ray specular scattering spectra. <i>Physics of the Solid State</i> , 2006, 48, 155-163.	0.2	1
77	A drop of hyperfine field at Sn in Fe/Cr/Sn/Cr multilayers. <i>Journal of Magnetism and Magnetic Materials</i> , 2006, 300, 351-357.	1.0	5
78	Magnetic and critical properties of models of magnetic superlattices. <i>Journal of Magnetism and Magnetic Materials</i> , 2006, 300, e546-e549.	1.0	16
79	Spin-density wave in Cr without the nesting property of the Fermi surface. <i>Journal of Physics Condensed Matter</i> , 2006, 18, 2717-2728.	0.7	19
80	Atomic-scale magnetic and chemical structure of Fe ²⁺ /V multilayers using Mössbauer spectroscopy. <i>Physical Review B</i> , 2005, 72, .	1.1	18
81	Spin polarized electron spectroscopy of thin vanadium films on a (110)FeNi ₃ surface. <i>Technical Physics Letters</i> , 2004, 30, 284-286.	0.2	0
82	The Investigation of the Magnetic Properties of Metallic Multilayers by Angle Dependent Mössbauer Spectroscopy. <i>Hyperfine Interactions</i> , 2004, 156/157, 643-647.	0.2	0
83	The Investigation of the Magnetic Properties of Metallic Multilayers by Angle Dependent Mössbauer Spectroscopy. , 2004, , 643-647.		0
84	Hyperfine fields for Sn and magnetic moments in Fe/Cr/Sn/Cr multilayers. <i>Physical Review B</i> , 2003, 68, .	1.1	9
85	Interface alloying and tunability of magnetic structure with hydrogen in Fe/V multilayers. <i>Physical Review B</i> , 2003, 68, .	1.1	26
86	The Role of Intermixing in the Phase Determination of the Interlayer Exchange Coupling in Multilayers: Application to Fe-Cr Superlattices. <i>Phase Transitions</i> , 2003, 76, 377-383.	0.6	2
87	Kondo State for a Compact Cr Trimer on a Metallic Surface. <i>Physical Review Letters</i> , 2002, 89, 276802.	2.9	25
88	Manipulation of the short-wavelength interlayer exchange coupling in Fe/Cr multilayers via interface alloying. <i>Physical Review B</i> , 2002, 66, .	1.1	14
89	Epitaxial growth regims and correlations between magnetic and chemical structures. <i>Computational Materials Science</i> , 2002, 24, 186-191.	1.4	7
90	Interface alloying and magnetic ordering formation in multilayers. <i>Computational Materials Science</i> , 2002, 24, 199-202.	1.4	1

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91	Interface alloying in the metallic magnetic heterostructures with BCC lattice. Journal of Magnetism and Magnetic Materials, 2002, 240, 398-400.	1.0	2
92	Epitaxial growth, alloying and magnetic structure of interfaces in Fe/Cr (001) superlattices. Journal of Magnetism and Magnetic Materials, 2002, 240, 504-507.	1.0	18
93	Evolution of atomic magnetic moments in Fe/V multilayers with hydrogen loading. Journal of Magnetism and Magnetic Materials, 2002, 240, 481-484.	1.0	17
94	Non-collinear magnetism of Cr, Mn and Fe trimers supported on the non-magnetic metal surface. Surface Science, 2001, 482-485, 965-969.	0.8	17
95	Fe /Cr interface magnetism: Correlation between hyperfine fields and magnetic moments. Physical Review B, 2001, 63, .	1.1	47
96	Effect of hydrogen on the interlayer exchange coupling in Fe/V superlattices. Physical Review B, 2000, 61, 4870-4876.	1.1	35
97	Non-collinear structure of Cr trimer on the surface of non-magnetic metals. Computational Materials Science, 2000, 17, 441-444.	1.4	15
98	Interface defects and formation of non-collinear magnetic ordering in Fe/Cr multilayers. Computational Materials Science, 2000, 17, 468-472.	1.4	5
99	Distribution of magnetic moments and hyperfine fields for Fe/Cr multilayers with different interface roughness. Computational Materials Science, 2000, 17, 477-482.	1.4	3
100	Magnetic trimer on non-magnetic substrate: From frustration towards non-collinearity. Europhysics Letters, 1999, 47, 556-561.	0.7	38
101	Magnetic dichroism and spin-resolved photoemission from rough interfaces. Physical Review B, 1999, 59, 1214-1222.	1.1	16
102	Noncollinear magnetism of Fe/Cr films and multilayers. Journal of Magnetism and Magnetic Materials, 1999, 196-197, 70-72.	1.0	7
103	Quantum-well states in magnetic multilayers and non-Poisson islands formation during epitaxial growth. Journal of Magnetism and Magnetic Materials, 1999, 196-197, 85-87.	1.0	0
104	Noncollinear magnetic structure of Fe/Cr interfaces. Journal of Magnetism and Magnetic Materials, 1999, 198-199, 471-473.	1.0	13
105	Structure of Cr overlayers on Fe surfaces: a new approach for the interpretation of spin-resolved photoemission and magnetic dichroism spectra. Journal of Magnetism and Magnetic Materials, 1999, 198-199, 680-682.	1.0	4
106	Phase shift of exchange coupling oscillations in magnetic multilayers. Journal of Magnetism and Magnetic Materials, 1999, 203, 283-285.	1.0	3
107	Fe/Cr interface magnetism in the external magnetic field. Journal of Magnetism and Magnetic Materials, 1999, 203, 280-282.	1.0	5
108	Magnetic structure of nonideal FeCr interface. Computational Materials Science, 1998, 10, 255-259.	1.4	9

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109	Periodic Anderson model for the description of noncollinear magnetic structure in low-dimensional 3d-systems. Computational Materials Science, 1998, 10, 211-216.	1.4	28
110	In-plane magnetization of an ultrathin film of Fe ₃ O ₄ (111) grown epitaxially on Pt(111). Physical Review B, 1998, 58, R11861-R11863.	1.1	34
111	Quantum well mechanism for giant magnetoresistance in trilayer. Journal of Magnetism and Magnetic Materials, 1997, 165, 370-372.	1.0	3
112	Pinhole defects in Fe/Cr trilayers. Journal of Magnetism and Magnetic Materials, 1997, 165, 458-461.	1.0	14
113	Fe clusters near the surface and interface in the FeCr systems. Journal of Magnetism and Magnetic Materials, 1997, 172, 110-118.	1.0	5
114	Quantum wells in trilayers: Dependence of the properties on the thickness of magnetic and nonmagnetic layers. Journal of Magnetism and Magnetic Materials, 1996, 156, 193-194.	1.0	13
115	Hubbard and Anderson periodic models for the description of imperfect low-dimensional FeCr magnetic systems. Journal of Magnetism and Magnetic Materials, 1996, 156, 202-204.	1.0	9
116	Exchange coupling in the complex magnetic multilayers. Europhysics Letters, 1996, 34, 629-634.	0.7	2
117	Bulk and surface magnetic properties of dilute FeCr alloys. Journal of Magnetism and Magnetic Materials, 1995, 146, 165-174.	1.0	12
118	Modeling of the magnetic properties of the Cr-Fe interface. Physical Review B, 1995, 52, 9477-9485.	1.1	33
119	Thermodynamic properties of itinerant electrons in magnetic superlattices: Magnetic coupling and magnetoresistance. Journal of Magnetism and Magnetic Materials, 1994, 138, 287-293.	1.0	4
120	Note on the physical sense of quantum group particles. Physics Letters, Section A: General, Atomic and Solid State Physics, 1993, 174, 179-181.	0.9	7
121	Generalized algebras of supersymmetric quantum mechanics. Theoretical and Mathematical Physics (Russian Federation), 1993, 94, 294-299.	0.3	2
122	QUANTUM SUPERSPACE, q-EXTENDED SUPERSYMMETRY AND PARASUPERSYMMETRIC QUANTUM MECHANICS. Modern Physics Letters A, 1993, 08, 2657-2670.	0.5	10
123	Generalized supersymmetry and new topological indexes for quantum GSQM- and ESQM-Hamiltonians. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 169, 422-426.	0.9	7
124	Quantum group particles and parastatistical excitations. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 169, 427-432.	0.9	6
125	Interaction of impurities in the Anderson model. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 169, 469-474.	0.9	0
126	Magnetic properties of the Hubbard model for finite temperatures. Physics Letters, Section A: General, Atomic and Solid State Physics, 1992, 166, 77-83.	0.9	2

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127	Supersymmetry and acoustic problems. Theoretical and Mathematical Physics(Russian Federation), 1992, 90, 277-280.	0.3	0
128	The low temperature thermomagnetic properties of thin films in high magnetic fields. Thin Solid Films, 1991, 202, 21-28.	0.8	0
129	Spectral representation of nonequilibrium Green's functions in the Kadanoff-Baym technique. Theoretical and Mathematical Physics(Russian Federation), 1990, 84, 773-776.	0.3	0
130	Potential Energy Surfaces and Rates of Spin Transitions. Zeitschrift Fur Physikalische Chemie, 0, , 130708000310008.	1.4	15