

Yuriy Mokrousov

List of Publications by Year in descending order

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145
papers

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46984

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152
all docs

152
docs citations

152
times ranked

8164
citing authors

#	ARTICLE	IF	CITATIONS
1	Theory of unidirectional magnetoresistance and nonlinear Hall effect. Journal of Physics Condensed Matter, 2022, 34, 055301.	0.7	2
2	Tuning Spin-Orbit Torques Across the Phase Transition in VO ₂ /NiFe Heterostructure. Advanced Functional Materials, 2022, 32, .	7.8	6
3	Observation of the Orbital Rashba-Edelstein Magnetoresistance. Physical Review Letters, 2022, 128, 067201.	2.9	46
4	Fe(001) angle-resolved photoemission and intrinsic anomalous Hall conductivity in Fe seen by different <i>ab initio</i> approaches: LDA and GGA versus $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML">\langle \text{mml:mrow}>\langle \text{mml:mi mathvariant="italic">GW</mml:mi></mml:mrow></mml:math}>$. Physical Review B, 2022, 105, .	1.1	5
5	Driving spin chirality by electron dynamics in laser-excited antiferromagnets. Communications Physics, 2022, 5, .	2.0	8
6	Magnetic domain walls of the van der Waals material Fe ₃ GeTe ₂ . 2D Materials, 2022, 9, 025022.	2.0	9
7	Topological response of the anomalous Hall effect in MnBi ₂ Te ₄ due to magnetic canting. Npj Quantum Materials, 2022, 7, .	1.8	15
8	Magnetoelastic resonance as a probe for exchange springs at antiferromagnet-ferromagnet interfaces. Physical Review B, 2022, 105, .	1.1	3
9	Evidence of Magnon-Mediated Orbital Magnetism in a Quasi-2D Topological Magnon Insulator. Nano Letters, 2022, 22, 5114-5119.	4.5	2
10	Spin and orbital transport in rare-earth dichalcogenides: The case of $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML">\langle \text{mml:mrow}>\langle \text{mml:mi}>EuS</mml:mi></mml:mrow></mml:math}>$ and $\langle \text{mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML">\langle \text{mml:mrow}>\langle \text{mml:mi}>MnS</mml:mi></mml:mrow></mml:math}>$. Physical Review Materials, 2022, 6, .	1.1	1
11	Laser-induced torques in spin spirals. Physical Review B, 2021, 103, .	1.1	2
12	Charge and spin photocurrents in the Rashba model. Physical Review B, 2021, 103, .	1.1	8
13	Tailoring the anomalous Hall effect of SrRuO ₃ thin films by strain: A first principles study. Journal of Applied Physics, 2021, 129, 093904.	1.1	5
14	Orbital Rashba effect in a surface-oxidized Cu film. Physical Review B, 2021, 103, .	1.1	47
15	Interplay of Dzyaloshinskii-Moriya and Kitaev interactions for magnonic properties of Heisenberg-Kitaev honeycomb ferromagnets. Physical Review B, 2021, 103, .	1.1	14
16	The chiral Hall effect in canted ferromagnets and antiferromagnets. Communications Physics, 2021, 4, .	2.0	15
17	Magnetism-mediated transition between crystalline and higher-order topological phases in NpSb. Physical Review B, 2021, 103, .	1.1	15
18	Laser-induced torques in metallic antiferromagnets. Physical Review B, 2021, 103, .	1.1	5

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19	Spin-orbit torques in strained PtMnSb from first principles. <i>Physical Review B</i> , 2021, 103, .	1.1	1
20	Roadmap of Spin-Orbit Torques. <i>IEEE Transactions on Magnetics</i> , 2021, 57, 1-39.	1.2	225
21	Orbitronics: Orbital currents in solids. <i>Europhysics Letters</i> , 2021, 135, 37001.	0.7	77
22	Effect of magnons on the temperature dependence and anisotropy of spin-orbit torque. <i>Physical Review B</i> , 2021, 104, .	1.1	2
23	Topological magnon insulators in two-dimensional van der Waals ferromagnets CrSiTe ₃ and CrGeTe ₃ : Toward intrinsic gap-tunability. <i>Science Advances</i> , 2021, 7, eabi7532.	4.7	56
24	Sign-reversible valley-dependent Berry phase effects in 2D valley-half-semiconductors. <i>Npj Computational Materials</i> , 2021, 7, .	3.5	56
25	Efficient conversion of orbital Hall current to spin current for spin-orbit torque switching. <i>Communications Physics</i> , 2021, 4, .	2.0	65
26	Photocurrents of charge and spin in monolayer FeMn_3 . <i>Physical Review B</i> , 2021, 104, .	1.1	1
27	Wannier90 as a community code: new features and applications. <i>Journal of Physics Condensed Matter</i> , 2020, 32, 165902.	0.7	807
28	Harnessing Orbital-to-Spin Conversion of Interfacial Orbital Currents for Efficient Spin-Orbit Torques. <i>Physical Review Letters</i> , 2020, 125, 177201.	2.9	92
29	Dynamical and current-induced Dzyaloshinskii-Moriya interaction: Role for damping, gyromagnetism, and current-induced torques in noncollinear magnets. <i>Physical Review B</i> , 2020, 102, .	1.1	8
30	Imprinting and driving electronic orbital magnetism using magnons. <i>Communications Physics</i> , 2020, 3, .	2.0	11
31	Mixed topology ring states for Hall effect and orbital magnetism in skyrmions of Weyl semimetals. <i>Physical Review B</i> , 2020, 102, .	1.1	4
32	Faster chiral versus collinear magnetic order recovery after optical excitation revealed by femtosecond XUV scattering. <i>Nature Communications</i> , 2020, 11, 6304.	5.8	19
33	Crystal Hall and crystal magneto-optical effect in thin films of SrRuO ₃ . <i>Journal of Applied Physics</i> , 2020, 127, .	1.1	37
34	Chiral Hall Effect in Noncollinear Magnets from a Cyclic Cohomology Approach. <i>Physical Review Letters</i> , 2020, 124, 096602.	2.9	44
35	Antiferromagnetic Topological Insulator with Nonsymmorphic Protection in Two Dimensions. <i>Physical Review Letters</i> , 2020, 124, 066401.	2.9	57
36	Topological magneto-optical effects and their quantization in noncoplanar antiferromagnets. <i>Nature Communications</i> , 2020, 11, 118.	5.8	51

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37	Topological chiral magnetic interactions driven by emergent orbital magnetism. <i>Nature Communications</i> , 2020, 11, 511.	5.8	104
38	Engineering the dynamics of topological spin textures by anisotropic spin-orbit torques. <i>Physical Review B</i> , 2020, 101, .	1.1	13
39	Electric-Field Control of Spin-Orbit Torques in Perpendicularly Magnetized $\text{W}/\text{MgO}/\text{CoFeB}/\text{MgO}$ Films. <i>Physical Review Letters</i> , 2020, 124, 217701.	2.9	45
40	Giant anomalous Nernst effect in noncollinear antiferromagnetic Mn-based antiperovskite nitrides. <i>Physical Review Materials</i> , 2020, 4, .	0.9	24
41	Magnonic Weyl states in $\text{CuMn}_2\text{P}_2\text{O}_{14}$. <i>Physical Review Research</i> , 2020, 2, .	1.3	20
42	Theory of current-induced angular momentum transfer dynamics in spin-orbit coupled systems. <i>Physical Review Research</i> , 2020, 2, .	1.3	65
43	Mixed topological semimetals driven by orbital complexity in two-dimensional ferromagnets. <i>Nature Communications</i> , 2019, 10, 3179.	5.8	43
44	Long-range chiral exchange interaction in synthetic antiferromagnets. <i>Nature Materials</i> , 2019, 18, 703-708.	13.3	83
45	Fully Spin-Polarized Nodal Loop Semimetals in Alkaline Metal Monochalcogenide Monolayers. <i>Journal of Physical Chemistry Letters</i> , 2019, 10, 3101-3108.	2.1	29
46	Spin-order dependent anomalous Hall effect and magneto-optical effect in the noncollinear antiferromagnets Mn_3N with X , Zn, Ag, or Ni. <i>Physical Review B</i> , 2019, 99, .	1.1	55
47	Distinct magnetotransport and orbital fingerprints of chiral bobbers. <i>Physical Review B</i> , 2019, 99, .	1.1	22
48	<i>Ab initio</i> analysis of magnetic properties of the prototype B20 chiral magnet FeGe. <i>Physical Review B</i> , 2019, 100, .	1.1	18
49	Spin caloric transport from density-functional theory. <i>Journal Physics D: Applied Physics</i> , 2019, 52, 073001.	1.3	13
50	Higher-dimensional Wannier Interpolation for the Modern Theory of the Dzyaloshinskii-Moriya Interaction: Application to Co-based Trilayers. <i>Journal of the Physical Society of Japan</i> , 2018, 87, 041010.	0.7	12
51	Topological antiferromagnetic spintronics. <i>Nature Physics</i> , 2018, 14, 242-251.	6.5	427
52	Hybrid quantum anomalous Hall effect at graphene-oxide interfaces. <i>Physical Review B</i> , 2018, 98, .	1.1	10
53	Engineering chiral and topological orbital magnetism of domain walls and skyrmions. <i>Communications Physics</i> , 2018, 1, .	2.0	29
54	Modification of Dzyaloshinskii-Moriya-Interaction-Stabilized Domain Wall Chirality by Driving Currents. <i>Physical Review Letters</i> , 2018, 121, 147203.	2.9	35

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55	Anomalous Hall Effect. Springer Series in Solid-state Sciences, 2018, , 177-207.	0.3	0
56	Spin-orbit torques and tunable Dzyaloshinskii-Moriya interaction in Co/Cu/Co trilayers. Physical Review B, 2018, 98, .	1.1	11
57	Helical magnetic structure and the anomalous and topological Hall effects in epitaxial B2O ₃ films. Physical Review B, 2018, 97, .	1.1	10
58	Spin-orbit torques in locally and globally noncentrosymmetric crystals: Antiferromagnets and ferromagnets. Physical Review B, 2017, 95, .	1.1	113
59	Topological spin Hall effect in antiferromagnetic skyrmions. Physica Status Solidi - Rapid Research Letters, 2017, 11, 1700007.	1.2	47
60	Robust dual topological character with spin-valley polarization in a monolayer of the Dirac semimetal Na ₃ Bi ₂ Te ₅ . Physical Review B, 2017, 95, .	1.1	34
61	Prototypical topological orbital ferromagnet $\hat{\Gamma}^3$ -FeMn. Scientific Reports, 2017, 7, 41078.	1.6	36
62	Geometrical contributions to the exchange constants: Free electrons with spin-orbit interaction. Physical Review B, 2017, 95, .	1.1	14
63	Chiral damping, chiral gyromagnetism, and current-induced torques in textured one-dimensional Rashba ferromagnets. Physical Review B, 2017, 96, .	1.1	16
64	Relation of the Dzyaloshinskii-Moriya interaction to spin currents and to the spin-orbit field. Physical Review B, 2017, 96, .	1.1	33
65	Mixed Weyl semimetals and low-dissipation magnetization control in insulators by spin-orbit torques. Nature Communications, 2017, 8, 1479.	5.8	42
66	Nonlocal fieldlike spin-orbit torques in Rashba systems: <i>Ab initio</i> study of a $\text{Ag}_{1-x}\text{Mn}_x$ -terminated Ag(111) film grown on a ferromagnetic Fe(110) substrate. Physical Review B, 2017, 95, .	1.1	14
67	Two-dimensional topological nodal line semimetal in layered X ₂ Y (X=Ca , Sr, and Ba; Y=As , Sb, and Bi). Physical Review B, 2017, 95, .	1.1	37
68	Charge pumping driven by the laser-induced dynamics of the exchange splitting. Physical Review B, 2017, 95, .	1.1	7
69	Toward surface orbitronics: giant orbital magnetism from the orbital Rashba effect at the surface of sp-metals. Scientific Reports, 2017, 7, 46742.	1.6	67
70	The inverse thermal spin-orbit torque and the relation of the Dzyaloshinskii-Moriya interaction to ground-state energy currents. Journal of Physics Condensed Matter, 2016, 28, 316001.	0.7	14
71	Efficient metallic spintronic emitters of ultrabroadband terahertz radiation. Nature Photonics, 2016, 10, 483-488.	15.6	605
72	Influence of complex disorder on skew-scattering Hall effects in $\text{L}_{1-x}\text{Mn}_x\text{FePt}$ alloy. Physical Review B, 2016, 94, .	1.4	8

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73	Strong spin-orbit fields and Dyakonov-Perel spin dephasing in supported metallic films. <i>Physical Review B</i> , 2016, 94, .	1.1	14
74	Role of Berry phase theory for describing orbital magnetism: From magnetic heterostructures to topological orbital ferromagnets. <i>Physical Review B</i> , 2016, 94, .	1.1	71
75	Asymmetric band gaps in a Rashba film system. <i>Physical Review B</i> , 2016, 93, .	1.1	19
76	Fermi surfaces, spin-mixing parameter, and colossal anisotropy of spin relaxation in transition metals from <i>ab initio</i> theory. <i>Physical Review B</i> , 2016, 93, .	1.1	21
77	Giant spin Nernst effect induced by resonant scattering at surfaces of metallic films. <i>Physical Review B</i> , 2016, 93, .	1.1	6
78	Spin-orbit torques and spin accumulation in FePt/Pt and Co/Cu thin films from first principles: The role of impurities. <i>Physical Review B</i> , 2016, 93, .	1.1	17
79	Laser-induced torques in metallic ferromagnets. <i>Physical Review B</i> , 2016, 94, .	1.1	36
80	Two-dimensional topological crystalline insulator phase in quantum wells of trivial insulators. <i>2D Materials</i> , 2016, 3, 025037.	2.0	5
81	Electrical switching of an antiferromagnet. <i>Science</i> , 2016, 351, 587-590.	6.0	1,049
82	Ballistic Anisotropic Magnetoresistance of Single-Atom Contacts. <i>Nano Letters</i> , 2016, 16, 1450-1454.	4.5	10
83	Femtosecond control of electric currents in metallic ferromagnetic heterostructures. <i>Nature Nanotechnology</i> , 2016, 11, 455-458.	15.6	182
84	Direct and inverse spin-orbit torques. <i>Physical Review B</i> , 2015, 92, .	1.1	73
85	All-electrical manipulation of magnetization dynamics in a ferromagnet by antiferromagnets with anisotropic spin Hall effects. <i>Physical Review B</i> , 2015, 92, .	1.1	95
86	Molecular anisotropic magnetoresistance. <i>Physical Review B</i> , 2015, 92, .	1.1	3
87	Topological orbital magnetization and emergent Hall effect of an atomic-scale spin lattice at a surface. <i>Physical Review B</i> , 2015, 92, .	1.1	41
88	Higher-dimensional Wannier functions of multiparameter Hamiltonians. <i>Physical Review B</i> , 2015, 91, .	1.1	10
89	Reduced spin-Hall effects from magnetic proximity. <i>Physical Review B</i> , 2015, 91, .	1.1	74
90	Functionalized bismuth films: Giant gap quantum spin Hall and valley-polarized quantum anomalous Hall states. <i>Physical Review B</i> , 2015, 91, .	1.1	73

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91	Spin-orbit torques in L_1 films driven by electrical and thermal currents. Physical Review B, 2015, 91, .	1.4	67
92	Two-Dimensional Topological Crystalline Insulator and Topological Phase Transition in TlSe and TlS Monolayers. Nano Letters, 2015, 15, 6071-6075.	4.5	44
93	Magnetic properties of 2D nickel nanostrips: structure dependent magnetism and Stoner criterion. Journal of Physics Condensed Matter, 2015, 27, 316002.	0.7	1
94	Giant magnetization canting due to symmetry breaking in zigzag Co chains on Ir(001). New Journal of Physics, 2015, 17, 023014.	1.2	19
95	Topological crystalline insulator and quantum anomalous Hall states in IV-VI-based monolayers and their quantum wells. Physical Review B, 2015, 91, .	1.1	37
96	Dzyaloshinskii-Moriya Interaction and Hall Effects in the Skyrmion Phase of Mn_2 Physical Review Letters, 2015, 115, 036602.	2.9	91
97	Skew scattering in dilute ferromagnetic alloys. Physical Review B, 2014, 90, .	1.1	44
98	Anomalous Hall effect in ferromagnets with Gaussian disorder. Physical Review B, 2014, 89, .	1.1	21
99	Berry phase theory of Dzyaloshinskii-Moriya interaction and spin-orbit torques. Journal of Physics Condensed Matter, 2014, 26, 104202.	0.7	121
100	Real-Space and Reciprocal-Space Berry Phases in the Hall Effect of Mn_2 Physical Review Letters, 2014, 112, 186601.	2.9	105
101	Spin-orbit torques in Co/Pt(111) and Mn/W(001) magnetic bilayers from first principles. Physical Review B, 2014, 90, .	1.1	164
102	Spin Hall Effects in Metallic Antiferromagnets. Physical Review Letters, 2014, 113, 196602.	2.9	313
103	Effect of magnetism and light sp-dopants on chain creation in Ir and Pt break junctions. Journal of Physics Condensed Matter, 2014, 26, 295302.	0.7	0
104	Dzyaloshinskii-Moriya interaction and chiral magnetism in d_3 chains: Tight-binding model and <i>ab initio</i> calculations. Physical Review B, 2014, 90, .	1.1	72
105	Spin relaxation and spin Hall transport in d_5 transition-metal ultrathin films. Physical Review B, 2014, 90, .	1.1	8
106	Symmetry and magnitude of spin-orbit torques in ferromagnetic heterostructures. Nature Nanotechnology, 2013, 8, 587-593.	15.6	955
107	Spin relaxation and the Elliott-Yafet parameter in W(001) ultrathin films: Surface states, anisotropy, and oscillation effects. Physical Review B, 2013, 87, .	1.1	8
108	Non-Fermi-Liquid Behavior in Transport Through Co-Doped Au Chains. Physical Review Letters, 2013, 110, 196402.	2.9	16

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109	Phase-space Berry phases in chiral magnets: Dzyaloshinskii-Moriya interaction and the charge of skyrmions. <i>Physical Review B</i> , 2013, 88, .	1.1	77
110	Unusual Kondo Physics in a Co Impurity Atom Embedded in Noble-Metal Chains. <i>IEEE Transactions on Magnetism</i> , 2013, 49, 4683-4686.	1.2	6
111	Scattering-independent anomalous Nernst effect in ferromagnets. <i>Physical Review B</i> , 2013, 87, .	1.1	61
112	Terahertz spin current pulses controlled by magnetic heterostructures. <i>Nature Nanotechnology</i> , 2013, 8, 256-260.	15.6	476
113	Engineering quantum anomalous Hall phases with orbital and spin degrees of freedom. <i>Physical Review B</i> , 2013, 87, .	1.1	22
114	Spin-flip hot spots in ultrathin films of monovalent metals: Enhancement and anisotropy of the Elliott-Yafet parameter. <i>Physical Review B</i> , 2013, 88, .	1.1	11
115	Temperature and Co thickness dependent sign change of the anomalous Hall effect in Co/Pd multilayers: An experimental and theoretical study. <i>Applied Physics Letters</i> , 2013, 102, .	1.5	33
116	Anisotropy of spin relaxation and transverse transport in metals. <i>Journal of Physics Condensed Matter</i> , 2013, 25, 163201.	0.7	22
117	Disentangling the Physical Contributions to the Electrical Resistance in Magnetic Domain Walls: A Multiscale Study. <i>Physical Review Letters</i> , 2012, 108, 077201.	2.9	15
118	Conductance fingerprints of noncollinear magnetic states in single-atom contacts: A first-principles Wannier-functions study. <i>Physical Review B</i> , 2012, 86, .	1.1	6
119	Topological phases of Bi(111) bilayer in an external exchange field. <i>Physical Review B</i> , 2012, 86, .	1.1	39
120	One-dimensional ballistic transport with FLAPW Wannier functions. <i>Physical Review B</i> , 2012, 85, .	1.1	9
121	Anisotropy of Spin Relaxation in Metals. <i>Physical Review Letters</i> , 2012, 109, 236603.	2.9	29
122	Modeling impurity-assisted chain creation in noble-metal break junctions. <i>Journal of Physics Condensed Matter</i> , 2012, 24, 135501.	0.7	6
123	Electrically Tunable Quantum Anomalous Hall Effect in Graphene Decorated by $\langle \mathbf{d} \rangle$ Transition-Metal Adatoms. <i>Physical Review Letters</i> , 2012, 108, 056802.	2.9	286
124	Information Transfer by Vector Spin Chirality in Finite Magnetic Chains. <i>Physical Review Letters</i> , 2012, 108, 197204.	2.9	151
125	Noncollinear magnetism in freestanding and supported monatomic Mn chains. <i>Physical Review B</i> , 2011, 83, .	1.1	23
126	Role of Spin-Flip Transitions in the Anomalous Hall Effect of FePt Alloy. <i>Physical Review Letters</i> , 2011, 106, 117202.	2.9	25

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127	<i>Ab Initio</i> Theory of the Scattering-Independent Anomalous Hall Effect. Physical Review Letters, 2011, 107, 106601.	2.9	68
128	Anisotropic intrinsic anomalous Hall effect in ordered 3d Pt alloys. Physical Review B, 2011, 84, .	1.1	19
129	Origin of the Planar Hall Effect in Nanocrystalline $\text{Co}_{60}\text{Fe}_{40}$ Alloys. Physical Review Letters, 2011, 107, 086602.	2.9	68
130	Spin-Orbit Strength Driven Crossover between Intrinsic and Extrinsic Mechanisms of the Anomalous Hall Effect in the Epitaxial L_{10}FePt Ordered Ferromagnets FePd and FePt. Physical Review Letters, 2010, 104, 076402.	2.9	86
131	Competing magnetic anisotropies in atomic-scale junctions. Physical Review B, 2010, 81, .	1.1	17
132	Anisotropic Spin Hall Effect from First Principles. Physical Review Letters, 2010, 105, 246602.	2.9	87
133	Structurally driven magnetic state transition of biatomic Fe chains on Ir(001). Physical Review B, 2009, 80, .	1.1	14
134	Magnetically Hindered Chain Formation in Transition-Metal Break Junctions. Physical Review Letters, 2009, 103, 217201.	2.9	18
135	Orientation Dependence of the Intrinsic Anomalous Hall Effect in hcp Cobalt. Physical Review Letters, 2009, 103, 097203.	2.9	65
136	Theory and Application of Chain Formation in Break Junctions. Nano Letters, 2008, 8, 2144-2149.	4.5	23
137	Maximally localized Wannier functions within the FLAPW formalism. Physical Review B, 2008, 78, .	1.1	135
138	Controlling the Magnetization Direction in Molecules via Their Oxidation State. Physical Review Letters, 2008, 100, 117207.	2.9	42
139	The interplay of structure and spin-orbit strength in the magnetism of metal-benzene sandwiches: from single molecules to infinite wires. Nanotechnology, 2007, 18, 495402.	1.3	49
140	Magnetic order and exchange interactions in monoatomic 3d transition-metal chains. Physical Review B, 2007, 75, .	1.1	61
141	Magnetic anisotropy energies of metal-benzene sandwiches. International Journal of Quantum Chemistry, 2006, 106, 3208-3213.	1.0	26
142	Giant Magnetocrystalline Anisotropies of 4d Transition-Metal Monowires. Physical Review Letters, 2006, 96, 147201.	2.9	99
143	Full-potential linearized augmented plane-wave method for one-dimensional systems: Gold nanowire and iron monowires in a gold tube. Physical Review B, 2005, 72, .	1.1	57
144	Magnetism in Molecular Vanadium-Benzene Sandwiches. AIP Conference Proceedings, 2005, , .	0.3	2

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145	Conditions for Subspaces of Analytic Vectors of a Closed Operator in a Banach Space to Be Dense. Functional Analysis and Its Applications, 2001, 35, 64-66.	0.1	4