Sergei Titov

List of Publications by Year
in descending order

123 papers	1,535 citations	331259 21 h-index	433756 31 g-index
130 all docs	130 docs citations	130 times ranked	668 citing authors

#	Article	IF	Citations
1	Ferromagnetic and nutation resonance frequencies of nanomagnets with various magnetocrystalline anisotropies. Journal of Applied Physics, 2022, 131, .	1.1	6
2	Nutation spin waves in ferromagnets. Physical Review B, 2022, 105, .	1.1	12
3	Inertial magnetization dynamics of ferromagnetic nanoparticles including thermal agitation. Physical Review B, 2021, 103, .	1.1	21
4	Coupled physical and magnetodynamic rotational diffusion of a single-domain ferromagnetic nanoparticle suspended in a liquid. Physical Review E, 2021, 103, 052128.	0.8	7
5	Deterministic inertial dynamics of the magnetization of nanoscale ferromagnets. Physical Review B, 2021, 103, .	1.1	13
6	Inertial magnetization dynamics of ferromagnetic nanoparticles including thermal agitation. , 2021, , .		0
7	Compact formulation of the statistical moment method for the solution of the Fokker–Planck equation for two coupled macrospins. Journal of Magnetism and Magnetic Materials, 2021, 539, 168365.	1.0	1
8	Comparison of Coupled Nonlinear Oscillator Models for the Transient Response of Power Generating Stations Connected to Low Inertia Systems. IEEE Transactions on Power Systems, 2020, 35, 795-802.	4.6	6
9	Generalization to anomalous diffusion of Budó's treatment of polar molecules containing interacting rotating groups. Journal of Chemical Physics, 2020, 153, 044128.	1.2	2
10	Anomalous diffusion of molecules with rotating polar groups: The joint role played by inertia and dipole coupling in microwave and far-infrared absorption. Physical Review E, 2020, 102, 052130.	0.8	3
11	Anomalous diffusion of a dipole interacting with its surroundings. Journal of Chemical Physics, 2020, 152, 114101.	1.2	2
12	Dipole-dipole and exchange interaction effects on the magnetization relaxation of two macrospins: Compared. Journal of Magnetism and Magnetic Materials, 2020, 507, 166814.	1.0	8
13	Theory of anomalous dielectric relaxation. Journal of Physics: Conference Series, 2019, 1322, 012037.	0.3	0
14	Forced response and dynamic hysteresis of magnetic nanoparticles with mixed uniaxial and cubic anisotropy in superimposed strong ac and dc bias fields. Physical Review B, 2019, 99, .	1.1	4
15	Active Damping of Power Oscillations Following Frequency Changes in Low Inertia Power Systems. IEEE Transactions on Power Systems, 2019, 34, 4984-4992.	4.6	12
16	Linear complex susceptibility of long-range interacting dipoles with thermal agitation and weak external ac fields. Physical Review B, 2019, 99, .	1.1	31
17	The charge-carrier mobility in disordered organic materials: the long-range one-dimensional diffusion with the memory effect. Journal of Mathematical Chemistry, 2018, 56, 728-746.	0.7	0
18	Finite-barrier correction for the ferromagnetic resonance frequency of nanomagnets with various magnetocrystalline anisotropies. Physical Review B, 2018, 97, .	1.1	6

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19	Cage model of polar fluids: Finite cage inertia generalization. Journal of Chemical Physics, 2017, 147, 034509.	1.2	4
20	Models for the transient stability of conventional power generating stations connected to low inertia systems. European Physical Journal Plus, 2017, 132, 1.	1.2	7
21	Damping Dependence of Spin-Torque Effects in Thermally Assisted Magnetization Reversal. IEEE Transactions on Magnetics, 2017, 53, 1-8.	1.2	1
22	Dynamic magnetic hysteresis and nonlinear susceptibility of antiferromagnetic nanoparticles. Journal of Applied Physics, 2016, 120, 053901.	1.1	7
23	Spin transfer torque and dc bias magnetic field effects on the magnetization reversal time of nanoscale ferromagnets at very low damping: Mean first-passage time versus numerical methods. Physical Review B, 2016, 93, .	1.1	5
24	Nonlinear ac stationary response and dynamic magnetic hysteresis of quantum uniaxial superparamagnets. Physical Review B, 2015, 92, .	1.1	0
25	Spin-transfer torque effects in the dynamic forced response of the magnetization of nanoscale ferromagnets in superimposed ac and dc bias fields in the presence of thermal agitation. Physical Review B, 2015, 91, .	1.1	3
26	Nonlinear frequency-dependent effects in the dc magnetization of uniaxial magnetic nanoparticles in superimposed strong alternating current and direct current fields. Journal of Applied Physics, 2014, 116, .	1.1	7
27	Magnetization reversal time of magnetic nanoparticles at very low damping. Physical Review B, 2014, 89, .	1.1	9
28	Spin-torque effects in thermally assisted magnetization reversal: Method of statistical moments. Physical Review B, 2013, 88, .	1.1	14
29	Fractional Fokker-Planck equation for anomalous diffusion in a potential: Exact matrix continued fraction solutions. European Physical Journal: Special Topics, 2013, 222, 1847-1856.	1.2	7
30	Golden rule kinetics of transfer reactions in condensed phase: The microscopic model of electron transfer reactions in disordered solid matrices. Journal of Chemical Physics, 2013, 139, 234102.	1.2	6
31	Nonlinear susceptibility and dynamic hysteresis loops of magnetic nanoparticles with biaxial anisotropy. Journal of Applied Physics, 2013, 113, .	1.1	14
32	Master equation in phase space applied to the quantum Brownian motion in a tilted periodic potential. Journal of Physics A: Mathematical and Theoretical, 2012, 45, 105002.	0.7	3
33	Statistical moment equations for stochastic spin dynamics in phase space: A uniaxial paramagnet subjected to a dc bias field of arbitrary orientation. Physical Review B, 2012, 86, .	1.1	5
34	Damping dependence in dynamic magnetic hysteresis of single-domain ferromagnetic particles. Physical Review B, 2012, 85, .	1.1	20
35	Fractional diffusion in a periodic potential: Overdamped and inertia corrected solutions for the spectrum of the velocity correlation function. Physical Review E, 2012, 85, 041101.	0.8	5
36	Inertial and bias effects in the rotational Brownian motion of rodlike molecules in a uniaxial potential. Journal of Chemical Physics, 2011, 134, 044530.	1.2	9

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37	Nonlinear stationary ac response of the magnetization of uniaxial superparamagnetic nanoparticles. Journal of Applied Physics, 2011, 110, .	1.1	24
38	Phase space master equations for quantum Brownian motion in a periodic potential: comparison of various kinetic models. Journal of Physics A: Mathematical and Theoretical, 2011, 44, 475001.	0.7	4
39	Characteristic Times of Anomalous Diffusion in a Potential. , 2011, , 51-75.		2
40	Master Equation in Phase Space for a Spin inÂanÂArbitrarily Directed Uniform External Field. Journal of Statistical Physics, 2010, 141, 589-606.	0.5	3
41	Nonlinear longitudinal relaxation of a quantum superparamagnet with arbitrary spin valueS: Phase space and density matrix formulations. Physical Review B, 2010, 81, .	1.1	7
42	Nonlinear magnetization relaxation of superparamagnetic nanoparticles in superimposed ac and dc magnetic bias fields. Physical Review B, 2010, 82, .	1.1	35
43	Spin-size effects in stochastic resonance in uniaxial superparamagnets. Physical Review B, 2010, 81, .	1.1	5
44	Effect of a dc bias field on the dynamic hysteresis of single-domain ferromagnetic particles. Journal of Applied Physics, 2010, 107, .	1.1	39
45	Classicalâ€"quantum crossover in magnetic stochastic resonance in uniaxial superparamagnets. Journal of Physics Condensed Matter, 2010, 22, 376001.	0.7	4
46	Semiclassical treatment of a Brownian ratchet using the quantum Smoluchowski equation. Physical Review E, 2009, 80, 051106.	0.8	20
47	Inertial effects in the orientational relaxation of rodlike molecules in a uniaxial potential. Journal of Chemical Physics, 2009, 130, 064110.	1.2	7
48	Quantum effects in the Brownian motion of a particle in a double well potential in the overdamped limit. Journal of Chemical Physics, 2009, 131, 084101.	1.2	5
49	Phase space Langevin equation for spin relaxation in a dc magnetic field. Europhysics Letters, 2009, 88, 17002.	0.7	6
50	Nonlinear noninertial response of a quantum Brownian particle in a tilted periodic potential to a strong ac force as applied to a point Josephson junction. Physical Review B, 2009, 79, .	1.1	11
51	Master Equation in Phase Space for a Uniaxial SpinÂSystem. Journal of Statistical Physics, 2008, 131, 969-987.	0.5	14
52	Inertial effects in the nonlinear transient relaxation of rigid rodlike molecules in a strong dc electric field. Journal of Chemical Physics, 2008, 129, 144505.	1.2	3
53	Phase space equilibrium distribution function for spins. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 105302.	0.7	10
54	Phase space description of spin dynamics. Journal Physics D: Applied Physics, 2008, 41, 134005.	1.3	4

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55	Anisotropic rotational diffusion and dielectric relaxation of rigid dipolar particles in a strong external dc field. Physical Review E, 2008, 78, 051110.	0.8	4
56	Phase-space equilibrium distributions and their applications to spin systems with nonaxially symmetric Hamiltonians. Physical Review B, 2008, 77, .	1.1	11
57	Smoluchowski equation approach for quantum Brownian motion in a tilted periodic potential. Physical Review E, 2008, 78, 031114.	0.8	38
58	Anisotropic rotational diffusion and transient nonlinear responses of rigid macromolecules in a strong external electric field. Journal of Chemical Physics, 2007, 126, 174903.	1.2	8
59	A Semiclassical Theory of Dielectric Relaxation and Absorption: Memory Function Approach to Extended Rotational Diffusion Models of Molecular Reorientations in Fluids. Advances in Chemical Physics, 2007, , 31-123.	0.3	11
60	Anomalous nonlinear dielectric and Kerr effect relaxation steady state responses in superimposed ac and dc electric fields. Journal of Chemical Physics, 2007, 126, 084502.	1.2	8
61	Quantum master equation in phase space: Application to the Brownian motion in a periodic potential. Europhysics Letters, 2007, 77, 20011.	0.7	19
62	Reply to 'Comment on 'Semiclassical Klein–Kramers and Smoluchowski equations for the Brownian motion of a particle in an external potential''. Journal of Physics A: Mathematical and Theoretical, 2007, 40, 12505-12508.	0.7	1
63	Semiclassical master equation in Wigners phase space applied to Brownian motion in a periodic potential. Physical Review E, 2007, 75, 041117.	0.8	25
64	Phase-space formulation of the nonlinear longitudinal relaxation of the magnetization in quantum spin systems. Physical Review E, 2007, 76, 051104.	0.8	13
65	Inertial effects in the fractional translational diffusion of a Brownian particle in a double-well potential. Physical Review E, 2007, 75, 031101.	0.8	12
66	Semiclassical Klein–Kramers and Smoluchowski equations for the Brownian motion of a particle in an external potential. Journal of Physics A: Mathematical and Theoretical, 2007, 40, F91-F98.	0.7	41
67	Wigner function approach to the quantum Brownian motion of a particle in a potential. Physical Chemistry Chemical Physics, 2007, 9, 3361.	1.3	52
68	Solution of the master equation for Wigner's quasiprobability distribution in phase space for the Brownian motion of a particle in a double well potential. Journal of Chemical Physics, 2007, 127, 074502.	1.2	21
69	On the Brownian motion in a double-well potential in the overdamped limit. Physica A: Statistical Mechanics and Its Applications, 2007, 377, 412-420.	1.2	11
70	Thermally activated escape rate for a Brownian particle in a double-well potential for all values of the dissipation. Journal of Chemical Physics, 2006, 124, 024107.	1.2	19
71	Rotational diffusion and orientation relaxation of rodlike molecules in a biaxial liquid crystal phase. Physica A: Statistical Mechanics and Its Applications, 2006, 368, 362-376.	1.2	4
72	Fractional Rotational Diffusion and Anomalous Dielectric Relaxation in Dipole Systems. Advances in Chemical Physics, 2006, , 285-437.	0.3	23

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73	Non-Markovian modification of the golden rule rate expression. Journal of Chemical Physics, 2006, 125, 194513.	1.2	5
74	Fractional translational diffusion of a Brownian particle in a double well potential. Physical Review E, 2006, 74, 011105.	0.8	10
75	Thermally activated escape rate for a Brownian particle in a tilted periodic potential for all values of the dissipation. Physical Review E, 2006, 73, 061101.	0.8	18
76	Langevin equation method for the rotational Brownian motion and orientational relaxation in liquids: spherical top molecules. Journal of Molecular Liquids, 2005, 116, 119-123.	2.3	1
77	Precession-aided magnetic stochastic resonance in ferromagnetic nanoparticles with cubic anisotropy. Physical Review B, 2005, 71, .	1.1	12
78	Dependence of the Magnetization Relaxation Time of Single-Domain Ferromagnetic Particles on Damping in the Brown Model. Physics of the Solid State, 2005, 47, 272.	0.2	17
79	Stochastic Resonance in Single-Domain Nanoparticles with Cubic Anisotropy. Physics of the Solid State, 2005, 47, 2325.	0.2	5
80	Damping dependence of the magnetization relaxation time of single-domain ferromagnetic particles. Journal of Magnetism and Magnetic Materials, 2005, 292, 372-384.	1.0	33
81	Thermally activated escape rate for the Brownian motion of a fixed axis rotator in an asymmetrical double-well potential for all values of the dissipation. Journal of Chemical Physics, 2005, 123, 094503.	1.2	9
82	Magnetization dynamics of two interacting spins in an external magnetic field. Physical Review B, 2005, 72, .	1.1	15
83	Fractional rotational diffusion of rigid dipoles in an asymmetrical double-well potential. Physical Review E, 2005, 72, 011103.	0.8	8
84	Bimodal approximation for anomalous diffusion in a potential. Physical Review E, 2004, 69, 021105.	0.8	14
85	Thermally activated escape rate for the Brownian motion of a fixed axis rotator in a double well potential for all values of the dissipation. Journal of Chemical Physics, 2004, 120, 9199-9211.	1.2	12
86	Extended rotational diffusion and orientational relaxation of symmetric top molecules in a strong dc electric field:â€,Second-rank orientational correlation functions. Journal of Chemical Physics, 2004, 120, 4852-4859.	1.2	4
87	Inertial effects in anomalous dielectric relaxation. Journal of Molecular Liquids, 2004, 114, 35-41.	2.3	5
88	Anomalous dielectric relaxation in a double-well potential. Journal of Molecular Liquids, 2004, 114, 43-49.	2.3	4
89	Green function for the diffusion limit of one-dimensional continuous time random walks. Journal of Molecular Liquids, 2004, 114, 165-171.	2.3	21
90	Microscopic models for dielectric relaxation in disordered systems. Physical Review E, 2004, 70, 041103.	0.8	67

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91	Inertial effects in anomalous dielectric relaxation of symmetrical top molecules. Physical Review E, 2004, 69, 031114.	0.8	4
92	Analytic calculation of the longitudinal dynamic susceptibility of uniaxial superparamagnetic particles in a strong uniform DC magnetic field. Journal of Magnetism and Magnetic Materials, 2003, 265, 44-53.	1.0	21
93	Calculation of longitudinal susceptibility of superparamagnetic particles. Physics of the Solid State, 2003, 45, 2140-2146.	0.2	8
94	Itinerant Oscillator Models of Fluids. Advances in Chemical Physics, 2003, , 131-186.	0.3	9
95	Anomalous diffusion and dielectric relaxation in anN-fold cosine potential. Physical Review E, 2003, 67, 061115.	0.8	18
96	Langevin equation method for the rotational Brownian motion and orientational relaxation in liquids: II. Symmetrical top molecules. Journal of Physics A, 2003, 36, 4947-4962.	1.6	8
97	Extended rotational diffusion and dielectric relaxation of symmetrical top molecules in a dc electric field. Journal of Chemical Physics, 2003, 118, 209-220.	1.2	11
98	Complex susceptibility of the cage model of polar liquids. Journal of Physics Condensed Matter, 2003, 15, 2961-2977.	0.7	6
99	Anomalous dielectric relaxation in the context of the Debye model of noninertial rotational diffusion. Journal of Chemical Physics, 2002, 116, 6422-6426.	1.2	61
100	Langevin equation method for the rotational Brownian motion and orientational relaxation in liquids. Journal of Physics A, 2002, 35, 6789-6803.	1.6	12
101	Inertial effects in anomalous dielectric relaxation. Physical Review E, 2002, 65, 032102.	0.8	25
102	Inertial effects in the anomalous dielectric relaxation of rotators in space. Physical Review E, 2002, 65, 051105.	0.8	9
103	Nonlinear response of fine superparamagnetic particles to the sudden change of a strong uniform DC magnetic field. Journal of Magnetism and Magnetic Materials, 2002, 241, 400-414.	1.0	4
104	Nonlinear response of superparamagnetic particles with cubic anisotropy to a sudden change in the applied strong static magnetic field. Physics of the Solid State, 2002, 44, 2276-2280.	0.2	1
105	Inertial effects in the nonlinear transient relaxation of Brownian particles in strong external electric fields. Journal of Chemical Physics, 2001, 115, 9895-9904.	1.2	15
106	Escape times for rigid Brownian rotators in a bistable potential from the time evolution of the Green function and the characteristic time of the probability evolution. Physica A: Statistical Mechanics and Its Applications, 2001, 298, 330-350.	1.2	11
107	Precessional effects in the linear dynamic susceptibility of uniaxial superparamagnets:â€ƒDependence of the ac response on the dissipation parameter. Physical Review B, 2001, 64, .	1.1	28
108	Spectral moments and orientation correlation functions of asymmetric top molecules. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2000, 89, 23-29.	0.2	0

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109	Nonlinear response of superparamagnetic particles to a sudden change of a high constant magnetic field. Physics of the Solid State, 2000, 42, 918-924.	0.2	7
110	Derivation of matrix elements for the system of moment equations governing the kinetics of superparamagnetic particles. Journal of Magnetism and Magnetic Materials, 2000, 210, 233-243.	1.0	14
111	Spectral moments of the rotational correlation functions for the first- and second-rank tensors of asymmetric top molecules. Molecular Physics, 2000, 98, 1907-1918.	0.8	1
112	Spectral Moments and Orientation Correlation Functions of Asymmetric Top Molecules. Optics and Spectroscopy (English Translation of Optika I Spektroskopiya), 2000, 89, 23.	0.2	0
113	Transient nonlinear dielectric relaxation and dynamic Kerr effect from sudden changes of a strong dc electric field: Polar and polarizable molecules. Physical Review E, 1999, 60, 1475-1485.	0.8	15
114	Matrix Elements of the System of Moment Equations Governing the Kinetics of Superparamagnetic Particles. Physical Review Letters, 1999, 82, 2967-2970.	2.9	51
115	Dielectric relaxation and extended rotational diffusion of asymmetric top molecules with account of finite duration of collisions. Journal of Molecular Structure, 1999, 479, 123-133.	1.8	8
116	Calculating coefficients for a system of moment equations used to describe the magnetization kinetics of a superparamagnetic particle in a fluctuating field. Physics of the Solid State, 1999, 41, 1854-1861.	0.2	7
117	Longitudinal dynamic susceptibility of superparamagnetic particles with cubic anisotropy. Journal of Experimental and Theoretical Physics, 1999, 88, 58-65.	0.2	11
118	Complex magnetic susceptibility of uniaxial superparamagnetic particles in a strong static magnetic field. Physics of the Solid State, 1998, 40, 1492-1499.	0.2	31
119	Longitudinal complex magnetic susceptibility of superparamagnetic particles with cubic anisotropy. Physics of the Solid State, 1998, 40, 1721-1722.	0.2	1
120	Longitudinal complex magnetic susceptibility and relaxation time of superparamagnetic particles with cubic magnetic anisotropy. Physical Review B, 1998, 58, 3267-3276.	1.1	45
121	Nonlinear dielectric relaxation and dynamic Kerr effect in a strong dc electric field suddenly switched on: Exact solutions for the three-dimensional rotational diffusion model. Physical Review E, 1996, 54, 6462-6475.	0.8	29
122	Discussion of the absorption spectrum of molecular oxygen in the 0-THz frequency band. Radiophysics and Quantum Electronics, 1989, 32, 690-700.	0.1	0
123	Propagation of pulse signals of millimeter wave range in the near-Earth paths. , 0, , .		0