Sergei Titov

List of Publications by Year in descending order

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123	1,535	331259	433756
papers	citations	21 h-index	31 g-index

130	130	130	668
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Microscopic models for dielectric relaxation in disordered systems. Physical Review E, 2004, 70, 041103.	0.8	67
2	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
3	Wigner function approach to the quantum Brownian motion of a particle in a potential. Physical Chemistry Chemical Physics, 2007, 9, 3361.	1.3	52
4	Matrix Elements of the System of Moment Equations Governing the Kinetics of Superparamagnetic Particles. Physical Review Letters, 1999, 82, 2967-2970.	2.9	51
5	Longitudinal complex magnetic susceptibility and relaxation time of superparamagnetic particles with cubic magnetic anisotropy. Physical Review B, 1998, 58, 3267-3276.	1.1	45
6	Semiclassical Kleinâ€“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
7	Effect of a dc bias field on the dynamic hysteresis of single-domain ferromagnetic particles. Journal of Applied Physics, 2010, 107, .	1.1	39
8	Smoluchowski equation approach for quantum Brownian motion in a tilted periodic potential. Physical Review E, 2008, 78, 031114.	0.8	38
9	Nonlinear magnetization relaxation of superparamagnetic nanoparticles in superimposed ac and dc magnetic bias fields. Physical Review B, 2010, 82, .	1.1	35
10	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
11	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
12	Linear complex susceptibility of long-range interacting dipoles with thermal agitation and weak external ac fields. Physical Review B, 2019, 99, .	1.1	31
13	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
14	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
15	Inertial effects in anomalous dielectric relaxation. Physical Review E, 2002, 65, 032102.	0.8	25
16	Semiclassical master equation in Wigners phase space applied to Brownian motion in a periodic potential. Physical Review E, 2007, 75, 041117.	0.8	25
17	Nonlinear stationary ac response of the magnetization of uniaxial superparamagnetic nanoparticles. Journal of Applied Physics, 2011, 110, .	1.1	24
18	Fractional Rotational Diffusion and Anomalous Dielectric Relaxation in Dipole Systems. Advances in Chemical Physics, 2006, , 285-437.	0.3	23

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19	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
20	Green function for the diffusion limit of one-dimensional continuous time random walks. Journal of Molecular Liquids, 2004, 114, 165-171.	2.3	21
21	Solution of the master equation for Wignerâ€™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
22	Inertial magnetization dynamics of ferromagnetic nanoparticles including thermal agitation. Physical Review B, 2021, 103, .	1.1	21
23	Semiclassical treatment of a Brownian ratchet using the quantum Smoluchowski equation. Physical Review E, 2009, 80, 051106.	0.8	20
24	Damping dependence in dynamic magnetic hysteresis of single-domain ferromagnetic particles. Physical Review B, 2012, 85, .	1.1	20
25	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
26	Quantum master equation in phase space: Application to the Brownian motion in a periodic potential. Europhysics Letters, 2007, 77, 20011.	0.7	19
27	Anomalous diffusion and dielectric relaxation in anN-fold cosine potential. Physical Review E, 2003, 67, 061115.	0.8	18
28	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
29	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
30	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
31	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
32	Magnetization dynamics of two interacting spins in an external magnetic field. Physical Review B, 2005, 72, .	1.1	15
33	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
34	Bimodal approximation for anomalous diffusion in a potential. Physical Review E, 2004, 69, 021105.	0.8	14
35	Master Equation in Phase Space for a Uniaxial SpinÂSystem. Journal of Statistical Physics, 2008, 131, 969-987.	0.5	14
36	Spin-torque effects in thermally assisted magnetization reversal: Method of statistical moments. Physical Review B, 2013, 88, .	1.1	14

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37	Nonlinear susceptibility and dynamic hysteresis loops of magnetic nanoparticles with biaxial anisotropy. Journal of Applied Physics, 2013, 113, .	1.1	14
38	Phase-space formulation of the nonlinear longitudinal relaxation of the magnetization in quantum spin systems. Physical Review E, 2007, 76, 051104.	0.8	13
39	Deterministic inertial dynamics of the magnetization of nanoscale ferromagnets. Physical Review B, 2021, 103, .	1.1	13
40	Langevin equation method for the rotational Brownian motion and orientational relaxation in liquids. Journal of Physics A, 2002, 35, 6789-6803.	1.6	12
41	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
42	Precession-aided magnetic stochastic resonance in ferromagnetic nanoparticles with cubic anisotropy. Physical Review B, 2005, 71, .	1.1	12
43	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
44	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
45	Nutation spin waves in ferromagnets. Physical Review B, 2022, 105, .	1.1	12
46	Longitudinal dynamic susceptibility of superparamagnetic particles with cubic anisotropy. Journal of Experimental and Theoretical Physics, 1999, 88, 58-65.	0.2	11
47	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
48	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
49	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
50	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
51	Phase-space equilibrium distributions and their applications to spin systems with nonaxially symmetric Hamiltonians. Physical Review B, 2008, 77, .	1.1	11
52	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
53	Fractional translational diffusion of a Brownian particle in a double well potential. Physical Review E, 2006, 74, 011105.	0.8	10
54	Phase space equilibrium distribution function for spins. Journal of Physics A: Mathematical and Theoretical, 2008, 41, 105302.	0.7	10

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55	Inertial effects in the anomalous dielectric relaxation of rotators in space. Physical Review E, 2002, 65, 051105.	0.8	9
56	Itinerant Oscillator Models of Fluids. Advances in Chemical Physics, 2003, , 131-186.	0.3	9
57	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
58	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
59	Magnetization reversal time of magnetic nanoparticles at very low damping. Physical Review B, 2014, 89, .	1.1	9
60	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
61	Calculation of longitudinal susceptibility of superparamagnetic particles. Physics of the Solid State, 2003, 45, 2140-2146.	0.2	8
62	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
63	Fractional rotational diffusion of rigid dipoles in an asymmetrical double-well potential. Physical Review E, 2005, 72, 011103.	0.8	8
64	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
65	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
66	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
67	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
68	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
69	Inertial effects in the orientational relaxation of rodlike molecules in a uniaxial potential. Journal of Chemical Physics, 2009, 130, 064110.	1.2	7
70	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
71	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
72	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

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73	Dynamic magnetic hysteresis and nonlinear susceptibility of antiferromagnetic nanoparticles. Journal of Applied Physics, 2016, 120, 053901.	1.1	7
74	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
75	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
76	Complex susceptibility of the cage model of polar liquids. Journal of Physics Condensed Matter, 2003, 15, 2961-2977.	0.7	6
77	Phase space Langevin equation for spin relaxation in a dc magnetic field. Europhysics Letters, 2009, 88, 17002.	0.7	6
78	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
79	Finite-barrier correction for the ferromagnetic resonance frequency of nanomagnets with various magnetocrystalline anisotropies. Physical Review B, 2018, 97, .	1.1	6
80	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
81	Ferromagnetic and nutation resonance frequencies of nanomagnets with various magnetocrystalline anisotropies. Journal of Applied Physics, 2022, 131, .	1.1	6
82	Inertial effects in anomalous dielectric relaxation. Journal of Molecular Liquids, 2004, 114, 35-41.	2.3	5
83	Stochastic Resonance in Single-Domain Nanoparticles with Cubic Anisotropy. Physics of the Solid State, 2005, 47, 2325.	0.2	5
84	Non-Markovian modification of the golden rule rate expression. Journal of Chemical Physics, 2006, 125, 194513.	1.2	5
85	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
86	Spin-size effects in stochastic resonance in uniaxial superparamagnets. Physical Review B, 2010, 81, .	1.1	5
87	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
88	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
89	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
90	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

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91	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
92	Anomalous dielectric relaxation in a double-well potential. Journal of Molecular Liquids, 2004, 114, 43-49.	2.3	4
93	Inertial effects in anomalous dielectric relaxation of symmetrical top molecules. Physical Review E, 2004, 69, 031114.	0.8	4
94	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
95	Phase space description of spin dynamics. Journal Physics D: Applied Physics, 2008, 41, 134005.	1.3	4
96	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
97	Classicalâ€“quantum crossover in magnetic stochastic resonance in uniaxial superparamagnets. Journal of Physics Condensed Matter, 2010, 22, 376001.	0.7	4
98	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
99	Cage model of polar fluids: Finite cage inertia generalization. Journal of Chemical Physics, 2017, 147, 034509.	1.2	4
100	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
101	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
102	Master Equation in Phase Space for a Spin inÂanÂArbitrarily Directed Uniform External Field. Journal of Statistical Physics, 2010, 141, 589-606.	0.5	3
103	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
104	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
105	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
106	Generalization to anomalous diffusion of BudÃ³â€™s treatment of polar molecules containing interacting rotating groups. Journal of Chemical Physics, 2020, 153, 044128.	1.2	2
107	Anomalous diffusion of a dipole interacting with its surroundings. Journal of Chemical Physics, 2020, 152, 114101.	1.2	2
108	Characteristic Times of Anomalous Diffusion in a Potential. , 2011, , 51-75.		2

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109	Longitudinal complex magnetic susceptibility of superparamagnetic particles with cubic anisotropy. Physics of the Solid State, 1998, 40, 1721-1722.	0.2	1
110	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
111	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
112	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
113	Reply to â€˜Comment on â€˜Semiclassical Kleinâ€“Kramers and Smoluchowski equations for the Brownian motion of a particle in an external potentialâ€™â€™. Journal of Physics A: Mathematical and Theoretical, 2007, 40, 12505-12508.	0.7	1
114	Damping Dependence of Spin-Torque Effects in Thermally Assisted Magnetization Reversal. IEEE Transactions on Magnetics, 2017, 53, 1-8.	1.2	1
115	Compact formulation of the statistical moment method for the solution of the Fokkerâ€“Planck equation for two coupled macrospins. Journal of Magnetism and Magnetic Materials, 2021, 539, 168365.	1.0	1
116	Discussion of the absorption spectrum of molecular oxygen in the O-THz frequency band. Radiophysics and Quantum Electronics, 1989, 32, 690-700.	0.1	0
117	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
118	Propagation of pulse signals of millimeter wave range in the near-Earth paths. , 0, , .		0
119	Nonlinear ac stationary response and dynamic magnetic hysteresis of quantum uniaxial superparamagnets. Physical Review B, 2015, 92, .	1.1	0
120	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
121	Theory of anomalous dielectric relaxation. Journal of Physics: Conference Series, 2019, 1322, 012037.	0.3	0
122	Inertial magnetization dynamics of ferromagnetic nanoparticles including thermal agitation. , 2021, , .		0
123	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