Vladimir N Kuzovkov

List of Publications by Year
in descending order

117	1,878	257450	315739
papers	citations	24 h-index	38 g-index

118	118	118	729
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Kinetics of bimolecular reactions in condensed media: critical phenomena and microscopic self-organisation. Reports on Progress in Physics, 1988, 51, 1479-1523.	20.1	261
2	Phenomenological kinetics of Frenkel defect recombination and accumulation in ionic solids. Reports on Progress in Physics, 1992, 55, 2079-2188.	20.1	89
3	Segregation in annihilation reactions without diffusion: Analysis of correlations. Physical Review Letters, 1989, 63, 805-808.	7.8	74
4	Distinctive features of diffusion-controlled radiation defect recombination in stoichiometric magnesium aluminate spinel single crystals and transparent polycrystalline ceramics. Scientific Reports, 2020, 10, 7810.	3.3	50
5	Dynamic self-assembly of photo-switchable nanoparticles. Soft Matter, 2012, 8, 227-234.	2.7	48
6	Comparison of the F-type center thermal annealing in heavy-ion and neutron irradiated Al2O3 single crystals. Nuclear Instruments & Methods in Physics Research B, 2018, 433, 93-97.	1.4	47
7	Kinetics of F center annealing and colloid formation in Al2O3. Nuclear Instruments & Methods in Physics Research B, 2016, 374, 107-110.	1.4	46
8	Anomalous Kinetics of Diffusion-Controlled Defect Annealing in Irradiated Ionic Solids. Journal of Physical Chemistry A, 2018, 122, 28-32.	2.5	46
9	The kinetics of defect aggregation and metal colloid formation in ionic solids under irradiation. Radiation Effects and Defects in Solids, 2001, 155, 113-125.	1.2	43
10	Kinetic oscillations in the catalytic CO oxidation on Pt single crystal surfaces: Theory and simulation. Journal of Chemical Physics, 1998, 108, 5571-5580.	3.0	42
11	A general stochastic model for the description of surface reaction systems. Physica A: Statistical Mechanics and Its Applications, 1994, 203, 298-315.	2.6	41
12	Oscillation Phenomena Leading to Chaos in a Stochastic Surface Reaction Model. Physical Review Letters, 1998, 81, 2164-2167.	7.8	37
13	Kinetics of nanocavity formation based onF-center aggregation in thermochemically reduced MgO single crystals. Physical Review B, 2001, 64, .	3.2	37
14	Bimolecular annihilation reactions with immobile reactants. Journal of Chemical Physics, 1990, 92, 2310-2316.	3.0	33
15	Some problems of recombination kinetics. I. Chemical Physics, 1983, 76, 479-487.	1.9	31
16	Simulation of kinetic oscillations in surface reactions on reconstructing surfaces. Journal of Chemical Physics, 1999, 110, 11523-11533.	3.0	30
17	A theoretical stochastic model for the A+1/2B2â†'0 reaction. Journal of Chemical Physics, 1993, 98, 10017-10025.	3.0	29
18	Global Synchronization via Homogeneous Nucleation in Oscillating Surface Reactions. Physical Review Letters, 1999, 83, 3089-3092.	7.8	29

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19	Some problems of recombination kinetics. II. Chemical Physics, 1983, 81, 335-347.	1.9	28
20	F center aggregation kinetics in low-energy electron irradiated LiF. Solid State Communications, 1998, 108, 629-633.	1.9	27
21	Theoretical analysis of the kinetics of low-temperature defect recombination in alkali halide crystals. Low Temperature Physics, 2016, 42, 588-593.	0.6	27
22	The kinetics of CaF2 metallization induced by low-energy electron irradiation. Nuclear Instruments & Methods in Physics Research B, 1998, 141, 79-84.	1.4	26
23	Stochastic model for the A+B2 surface reaction: Island formation and complete segregation. Journal of Chemical Physics, 1994, 100, 6073-6081.	3.0	25
24	Radiation-induced defects in sapphire single crystals irradiated by a pulsed ion beam. Nuclear Instruments & Methods in Physics Research B, 2020, 466, 1-7.	1.4	24
25	Discrete-lattice theory for Frenkel-defect aggregation in irradiated ionic solids. Physical Review B, 1998, 58, 8454-8463.	3.2	23
26	Generalised theory of diffusion-controlled defect annealing. Journal of Physics C: Solid State Physics, 1980, 13, L499-L502.	1.5	22
27	Nucleation and Island Growth Kinetics on Reconstructing Surfaces. Physical Review Letters, 1999, 83, 1636-1639.	7.8	22
28	Kinetics of the electronic center annealing in Al2O3 crystals. Journal of Nuclear Materials, 2018, 502, 295-300.	2.7	21
29	Kinetics of Defect Accumulation and Recombination: II. Diffusionâ€Controlled Defect Annihilation. Physica Status Solidi (B): Basic Research, 1981, 108, 37-44.	1.5	19
30	Many-particle effects in accumulation kinetics of Frenkel defects in crystals. Journal of Physics C: Solid State Physics, 1984, 17, 2283-2292.	1.5	19
31	Monte Carlo simulations for a Lotka-type model with reactant surface diffusion and interactions. Physical Review E, 2001, 63, 051104.	2.1	19
32	Kinetics of Defect Accumulation and Recombination. I. General Formalism. Physica Status Solidi (B): Basic Research, 1981, 105, 789-801.	1.5	18
33	Dynamic particle aggregation in the bimolecularA+Bâ†'0 reaction. Journal of Chemical Physics, 1993, 98, 9107-9114.	3.0	18
34	Some problems of recombination kinetics. III. Chemical Physics, 1985, 98, 351-360.	1.9	17
35	The kinetics of defect accumulation under irradiation: many-particle effects. Physica Scripta, 1993, 47, 585-595.	2.5	17
36	Thermal annealing of radiation damage produced by swift 132Xe ions in MgO single crystals. Nuclear Instruments & Methods in Physics Research B, 2020, 462, 163-168.	1.4	17

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37	A simplified stochastic description for the A+B2 surface reaction including A diffusion. Journal of Chemical Physics, 1994, 100, 8522-8525.	3.0	16
38	Front form and velocity in a one-dimensional autocatalyticA+Bâ†'2Areaction. Physical Review E, 1997, 56, 4130-4134.	2.1	16
39	Kinetics of dimer F type center annealing in MgF2 crystals. Nuclear Instruments & Methods in Physics Research B, 2018, 435, 79-82.	1.4	16
40	Effect of nonequilibrium charge screening in A + B ? 0 bimolecular reactions in condensed matter. Journal of Statistical Physics, 1993, 72, 127-144.	1.2	15
41	Stochastic model for complex surface-reaction systems with application toNH3formation. Physical Review E, 1993, 48, 1700-1709.	2.1	15
42	Modeling of primary defect aggregation in tracks of swift heavy ions in LiF. Physical Review B, 2001, 64, .	3.2	15
43	Effect of reagent density fluctuations on bimolecular reaction kinetics. Chemical Physics Letters, 1982, 87, 575-578.	2.6	14
44	Evidence for the formation of two types of oxygen interstitials in neutron-irradiated Î±-Al2O3 single crystals. Scientific Reports, 2021, 11, 20909.	3.3	14
45	Reaction kinetics beyond rate equations: a correlation-function study of the effects of space dimension and reactant mobilities on the bimolecular annihilation reaction. Journal of Physics A, 1994, 27, 1453-1462.	1.6	13
46	A stochastic approach to surface reactions including energetic interactions: I. Theory. Journal of Physics A, 1996, 29, 6205-6218.	1.6	13
47	Spontaneous symmetry breaking in a NO + CO surface reaction model. Chemical Physics Letters, 1997, 275, 85-92.	2.6	13
48	Many-particle effects in kinetics of bimolecular diffusion-controlled reactions. Chemical Physics Letters, 1985, 117, 266-270.	2.6	11
49	The kinetics of F-center aggregation under irradiation: many-particle effects in ionic solids. Physica Scripta, 1994, 50, 720-725.	2.5	11
50	Exact analytic solution for the generalized Lyapunov exponent of the two-dimensional Anderson localization. Journal of Physics Condensed Matter, 2002, 14, 13777-13797.	1.8	11
51	Static and dynamic screening effects in the electrostatic self-assembly of nano-particles. Physical Chemistry Chemical Physics, 2014, 16, 25449-25460.	2.8	11
52	Bimolecular annihilation reactions with immobile reactants: Unequal reactant concentrations. Journal of Chemical Physics, 1990, 93, 7148-7152.	3.0	10
53	Autoregressive moving average model for analyzing edge localized mode time series on Axially Symmetric Divertor Experiment (ASDEX) Upgrade tokamak. Physics of Plasmas, 2004, 11, 5658-5667.	1.9	10
54	The non-equilibrium charge screening effects in diffusion-driven systems with pattern formation. Journal of Chemical Physics, 2011, 135, 034702.	3.0	10

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55	Manifestation of dipole-induced disorder in self-assembly of ferroelectric and ferromagnetic nanocubes. Nanoscale, 2019, 11, 7293-7303.	5.6	10
56	Internal spatiotemporal stochastic resonance in the presence of weak noise. Physical Review E, 2002, 66, 036139.	2.1	9
57	Synchronization of surface reactions via Turing-like structures. Physical Review E, 2004, 69, 031604.	2.1	9
58	The phase diagram of the multi-dimensional Anderson localization via analytic determination of Lyapunov exponents. European Physical Journal B, 2004, 42, 529-542.	1.5	9
59	Kinetic Monte Carlo Simulations of Flow-Assisted Polymerization. ACS Macro Letters, 2012, 1, 1393-1397.	4.8	9
60	Kinetics of diffusion-controlled defect accumulation restricted by their recombination. Solid State Communications, 1981, 40, 173-176.	1.9	8
61	The kinetics of the bimolecular A+Bâ†'0 reaction in condensed matter: Effects of nonâ€equilibrium charge screening. Journal of Chemical Physics, 1996, 105, 9486-9492.	3.0	8
62	Microscopic approach to the kinetics of pattern formation of charged molecules on surfaces. Physical Review E, 2010, 82, 021602.	2.1	8
63	Bimolecular annihilation reactions: Immobile reactants and multipolar interactions. Journal of Statistical Physics, 1991, 65, 1261-1267.	1.2	7
64	Pair and triple correlations in theA+Bâ†'Bdiffusion-controlled reaction. Physical Review Letters, 1994, 72, 2105-2108.	7.8	7
65	A stochastic model and a Monte Carlo simulation for the description of CO oxidation on Pt/Sn alloys. Journal of Chemical Physics, 1995, 102, 5037-5044.	3.0	7
66	A Lotka-type model for oscillations in surface reactions. Journal of Physics A, 1997, 30, 4171-4186.	1.6	7
67	Comment on â€œSurface restructuring, kinetic oscillations, and chaos in heterogeneous catalytic reactionsâ€• Physical Review E, 2001, 63, 023101.	2.1	7
68	Radiation-induced aggregatization of immobile defects. Solid State Communications, 1981, 39, 351-354.	1.9	6
69	The kinetics of colloid formation in solids under irradiation. Journal of Physics Condensed Matter, 1995, 7, L481-L486.	1.8	6
70	Anderson localization problem: An exact solution for 2-D anisotropic systems. Physica A: Statistical Mechanics and Its Applications, 2007, 377, 115-124.	2.6	6
71	Void lattice formation in electron irradiated CaF 2 : Statistical analysis of experimental data and cellular automata simulations. Nuclear Instruments & Methods in Physics Research B, 2016, 368, 138-143.	1.4	6
72	Peculiarities of diffusion-controlled recombination kinetics at long time and/or for great initial reagent concentrations. European Physical Journal D, 1985, 35, 541-548.	0.4	5

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73	Self-organization in the A + B â†’ 0 reaction of charged particles. Physica A: Statistical Mechanics and Its Applications, 1992, 191, 172-176.	2.6	5
74	Effect of reactant spatial distribution in theA+Bâ†’0reaction kinetics in one dimension with Coulomb interaction. Physical Review E, 1996, 54, 6128-6138.	2.1	5
75	A stochastic approach to surface reactions including energetic interactions: II. Application to the reaction. Journal of Physics A, 1996, 29, 6219-6232.	1.6	5
76	Diffusion-controlled annihilation and aggregation of F-centers in thermochemically reduced MgO crystals. Nuclear Instruments & Methods in Physics Research B, 2002, 191, 208-211.	1.4	5
77	Modelling of phase transitions and reaction at CO adsorption on oxygen precovered Pd(111). Applied Surface Science, 2006, 252, 5395-5398.	6.1	5
78	Pattern Formation Kinetics for Charged Molecules on Surfaces: Microscopic Correlation Function Analysis. Journal of Physical Chemistry B, 2011, 115, 14626-14633.	2.6	5
79	Atomistic theory of mesoscopic pattern formation induced by bimolecular surface reactions between oppositely charged molecules. Journal of Chemical Physics, 2011, 135, 224503.	3.0	5
80	Theory of non-equilibrium critical phenomena in three-dimensional condensed systems of charged mobile nanoparticles. Physical Chemistry Chemical Physics, 2014, 16, 13974-13983.	2.8	5
81	Thermal annealing of radiation defects in MgF2 single crystals induced by neutrons at low temperatures. Nuclear Instruments & Methods in Physics Research B, 2020, 480, 16-21.	1.4	5
82	The Two Types of Oxygen Interstitials in Neutronâ€irradiated Corundum Single Crystals: Joint Experimental and Theoretical Study. Physica Status Solidi (B): Basic Research, 0, , 2100317.	1.5	5
83	Theory of diffusion-controlled defect aggregation under irradiation: A comparative study of three basic approaches. Radiation Effects and Defects in Solids, 1995, 136, 209-215.	1.2	4
84	Kinetic model for surface reconstruction. Physical Review E, 2002, 66, 011603.	2.1	4
85	Reply to Comment on ÂExact analytical solution for the generalized Lyapunov exponent of the two-dimensional Anderson localizationÂ. Journal of Physics Condensed Matter, 2004, 16, 1683-1685.	1.8	4
86	Random walk approach to the analytic solution of random systems with multiplicative noiseâ€”The Anderson localization problem. Physica A: Statistical Mechanics and Its Applications, 2006, 369, 251-265.	2.6	4
87	Void superlattice formation in electron irradiated CaF2: Theoretical analysis. Nuclear Instruments & Methods in Physics Research B, 2010, 268, 3055-3058.	1.4	4
88	Front propagation in the one-dimensional autocatalyticA+Bâ†’2Areaction with decay. Physical Review E, 1999, 59, 2561-2565.	2.1	3
89	Monte Carlo simulations of the periodically forced autocatalyticA+Bâ†’2Breaction. Physical Review E, 2000, 61, 4593-4598.	2.1	3
90	Forced oscillations in a self-oscillating surface reaction model. Physical Chemistry Chemical Physics, 2004, 6, 1227-1229.	2.8	3

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91	Statistical characterization of selfâ€assembled charged nanoparticle structures. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 288-293.	1.8	3
92	Kinetic equations for normal growth of crystals near the equilibrium. Journal of Crystal Growth, 1983, 65, 55-58.	1.5	2
93	Kuzovkov and Kotomin Reply:. Physical Review Letters, 1995, 75, 587-587.	7.8	2
94	Anomalous charge screening in the radiation-induced recombination of charged defects in ionic solids. Radiation Effects and Defects in Solids, 1995, 134, 133-135.	1.2	2
95	Computer modeling of metal colloid formation in tracks of swift heavy ions in ionic solids. Radiation Effects and Defects in Solids, 2001, 155, 145-151.	1.2	2
96	Global oscillation mechanism in the stochastic Lotka model. Physical Review E, 2001, 63, 061107.	2.1	2
97	Reply to â€œComment on â€˜Monte Carlo simulations for a Lotka-type model with reactant surface diffusion and interactionsâ€™ â€. Physical Review E, 2002, 65, 033102.	2.1	2
98	Model of the catalyticA+Bâ†’0reaction with surface reconstruction. Physical Review E, 2002, 66, 021109.	2.1	2
99	The kinetic MC modelling of reversible pattern formation in initial stages of thin metallic film growth on crystalline substrates. Solid State Communications, 2003, 125, 463-467.	1.9	2
100	The Anderson localization problem, the Fermiâ€“Pastaâ€“Ulam paradox and the generalized diffusion approach. Physica Scripta, 2011, 84, 065002.	2.5	2
101	Role of Intrinsic Dipoles in the Evaporationâ€Driven Assembly of Perovskite Nanocubes into Energyâ€Harvesting Composites. Physica Status Solidi (A) Applications and Materials Science, 2020, 217, 1900533.	1.8	2
102	On the Method of Local Potential for the Investigation of Ferroelectrics. Journal of the Physical Society of Japan, 1977, 42, 1235-1238.	1.6	1
103	Diffusion chaos in the Lotke-Volterra stochastic model. Theoretical and Experimental Chemistry, 1988, 24, 1-7.	0.8	1
104	Defining percolation kinetically on an infinite lattice. Chemical Physics Letters, 1995, 247, 189-193.	2.6	1
105	The A + B â†’ 0 reaction on a disordered lattice. Physics Letters, Section A: General, Atomic and Solid State Physics, 1996, 224, 57-62.	2.1	1
106	Calculation of the Effective Diffusion Coefficient in Inhomogeneous Solids. Defect and Diffusion Forum, 2001, 194-199, 163-170.	0.4	1
107	Anderson localization: 2â€Ð system in an external magnetic field and the generalized diffusion approach. Physica Status Solidi (B): Basic Research, 2009, 246, 1257-1267.	1.5	1
108	Statistical model of correlated displacement in the theory of ferroelectricity. Ferroelectrics, 1974, 8, 461-463.	0.6	0

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109	The kinetics of defect aggregation: A novel lattice formalism. Radiation Effects and Defects in Solids, 1995, 134, 137-139.	1.2	0
110	Microscopic theory of colloid formation in solids under irradiation. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1996, 37, 49-51.	3.5	0
111	The Kinetics of Radiation-Induced Defect Accumulation in Ionic Solids. Materials Science Forum, 1997, 239-241, 387-390.	0.3	0
112	The microscopic theory of diffusion-controlled defect aggregation. Computational Materials Science, 1998, 10, 22-27.	3.0	0
113	Modeling of primary defect aggregation in tracks of swift heavy ions in alkali halides. Surface and Coatings Technology, 2002, 158-159, 269-272.	4.8	0
114	Kinetic Monte Carlo modeling of Y2O3 nano-cluster formation in radiation resistant matrices. Nuclear Instruments & Methods in Physics Research B, 2018, 434, 13-22.	1.4	0
115	Peculiarities of the diffusion-controlled radiation defect accumulation kinetics under high fluencies. Nuclear Instruments & Methods in Physics Research B, 2020, 480, 45-48.	1.4	0
116	Theory of diffusion-controlled colloid formation in irradiated solids. Solid State Ionics, 1997, 101-103, 451-455.	2.7	0
117	On the Method of Fluctuation Background for the Investigation of Acoustic Properties of Ferroelectrics. Journal of the Physical Society of Japan, 1977, 43, 788-792.	1.6	0