R K P Zia

List of Publications by Year
in descending order

95 **papers**	3,532 **citations**	136950 32 **h-index**	144013 57 **g-index**
96 **all docs**	96 **docs citations**	96 **times ranked**	1411 **citing authors**

#	Article	IF	Citations
1	Non-equilibrium statistical mechanics: from a paradigmatic model to biological transport. Reports on Progress in Physics, 2011, 74, 116601.	20.1	398
2	Totally asymmetric exclusion process with extended objects: A model for protein synthesis. Physical Review E, 2003, 68, 021910.	2.1	312
3	Critical behaviour of the continuous n-component Potts model. Journal of Physics A, 1975, 8, 1495-1507.	1.6	164
4	Modeling Translation in Protein Synthesis with TASEP: A Tutorial and Recent Developments. Journal of Statistical Physics, 2011, 144, 405-428.	1.2	161
5	Probability currents as principal characteristics in the statistical mechanics of non-equilibrium steady states. Journal of Statistical Mechanics: Theory and Experiment, 2007, 2007, P07012-P07012.	2.3	150
6	Canonical Analysis of Condensation in Factorised Steady States. Journal of Statistical Physics, 2006, 123, 357-390.	1.2	101
7	Onset of Spatial Structures in Biased Diffusion of Two Species. Europhysics Letters, 1992, 19, 19-25.	2.0	91
8	Inhomogeneous exclusion processes with extended objects: The effect of defect locations. Physical Review E, 2007, 76, 051113.	2.1	88
9	Factorized steady states in mass transport models. Journal of Physics A, 2004, 37, L275-L280.	1.6	86
10	Towards a Model for Protein Production Rates. Journal of Statistical Physics, 2007, 128, 21-34.	1.2	77
11	Singularities induced by Goldstone modes. Physical Review B, 1975, 12, 5340-5342.	3.2	74
12	Getting more from pushing less: Negative specific heat and conductivity in nonequilibrium steady states. American Journal of Physics, 2002, 70, 384-392.	0.7	74
13	NEXUS/Physics: An interdisciplinary repurposing of physics for biologists. American Journal of Physics, 2014, 82, 368-377.	0.7	71
14	A possible classification of nonequilibrium steady states. Journal of Physics A, 2006, 39, L407-L413.	1.6	69
15	Critical properties of a randomly driven diffusive system. Physical Review Letters, 1991, 66, 357-360.	7.8	68
16	Competition between multiple totally asymmetric simple exclusion processes for a finite pool of resources. Physical Review E, 2009, 80, 031142.	2.1	60
17	Far-from-equilibrium transport with constrained resources. Journal of Statistical Mechanics: Theory and Experiment, 2008, 2008, P06009.	2.3	59
18	Essential Singularities at First-Order Phase Transitions. Physical Review Letters, 1976, 37, 639-642.	7.8	50

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19	Phase transitions in a driven lattice gas with repulsive interactions. Physical Review Letters, 1989, 62, 1772-1775.	7.8	50
20	The renormalisation group approach to scaling in physics. Reports on Progress in Physics, 1978, 41, 1-85.	20.1	49
21	The summertop construction: Crystals in a corner. Journal of Statistical Physics, 1988, 50, 727-736.	1.2	49
22	Long-range order in a quasi one-dimensional non-equilibrium three-state lattice gas. Europhysics Letters, 1999, 45, 431-436.	2.0	47
23	Suppression of Interface Roughness in Driven Nonequilibrium Systems. Physical Review Letters, 1988, 61, 1744-1747.	7.8	43
24	Factorized steady states in mass transport models on an arbitrary graph. Journal of Physics A, 2006, 39, 4859-4873.	1.6	42
25	Feedback and fluctuations in a totally asymmetric simple exclusion process with finite resources. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P02012.	2.3	42
26	Classical and semiclassical diamagnetism: A critique of treatment in elementary texts. American Journal of Physics, 1986, 54, 32-35.	0.7	41
27	Parametric models and the Ising equation of state at order epsilon3. Journal of Physics C: Solid State Physics, 1974, 7, 3480-3490.	1.5	38
28	Universality in the percolation problemâ€"Anomalous dimensions ofÏ†4operators. Physical Review B, 1977, 15, 4657-4666.	3.2	38
29	Characterization of the nonequilibrium steady state of a heterogeneous nonlinear q-voter model with zealotry. Europhysics Letters, 2016, 113, 48001.	2.0	38
30	Twenty Five Years After KLS: AÂCelebration ofÂNon-equilibrium Statistical Mechanics. Journal of Statistical Physics, 2010, 138, 20-28.	1.2	34
31	Cyclic competition of four species: Mean-field theory and stochastic evolution. Europhysics Letters, 2010, 92, 58003.	2.0	34
32	â€œWeatherâ€•records: Musings on cold days after a long hot Indian summer. American Journal of Physics, 1999, 67, 1269-1276.	0.7	33
33	Saddles, arrows, and spirals: Deterministic trajectories in cyclic competition of four species. Physical Review E, 2011, 83, 051108.	2.1	31
34	Harmonic perturbations of generalized Heisenberg spin systems. Journal of Physics C: Solid State Physics, 1975, 8, 839-843.	1.5	30
35	Equilibrium shapes of crystals in a gravitational field: Crystals on a table. Journal of Statistical Physics, 1983, 33, 493-522.	1.2	30
36	Heterogeneous out-of-equilibrium nonlinear q-voter model with zealotry. Physical Review E, 2017, 95, 012104.	2.1	30

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37	Two-temperature kinetic Ising model in one dimension: Steady-state correlations in terms of energy and energy flux. Physical Review E, 1994, 49, 139-144.	2.1	29
38	Nonequilibrium phase transitions in a simple three-state lattice gas. Journal of Statistical Physics, 1997, 86, 721-748.	1.2	29
39	Spontaneous Structure Formation in Driven Systems with Two Species: Exact Solutions in a Mean-Field Theory. Physical Review Letters, 1994, 73, 2071-2074.	7.8	28
40	Extremal-point densities of interface fluctuations. Physical Review E, 2000, 62, 276-294.	2.1	28
41	Driven nonequilibrium lattice systems with shifted periodic boundary conditions. Journal of Statistical Physics, 1989, 56, 43-58.	1.2	27
42	Monte Carlo studies of a driven lattice gas. I. Growth and asymmetry during phase segregation. Journal of Statistical Physics, 1996, 82, 1133-1158.	1.2	26
43	Extraordinary variability and sharp transitions in a maximally frustrated dynamic network. Europhysics Letters, 2012, 100, 66007.	2.0	26
44	Spatial Structures with Non-zero Winding Number in Biased Diffusion of Two Species. Europhysics Letters, 1993, 24, 115-120.	2.0	25
45	Roughness, spatial, and temporal correlations of an interface in a driven nonequilibrium lattice gas. Physical Review B, 1989, 39, 9312-9317.	3.2	21
46	Stochastic evolution of four species in cyclic competition. Journal of Statistical Mechanics: Theory and Experiment, 2012, 2012, P06014.	2.3	21
47	On the relationship between cyclic and hierarchical three-species predator-prey systems and the two-species Lotka-Volterra model. European Physical Journal B, 2012, 85, 1.	1.5	21
48	Epidemic Spreading on Preferred Degree Adaptive Networks. PLoS ONE, 2012, 7, e48686.	2.5	21
49	Anomalous interfacial correlations in non-equilibrium anisotropic systems. Journal of Physics A, 1993, 26, L737-L741.	1.6	19
50	Drifting spatial structures in a system with oppositely driven species. Physical Review E, 1997, 56, 308-315.	2.1	18
51	On the uniqueness of Ï•4interactions in two- and three-component spin systems. Journal of Physics A, 1975, 8, 1089-1096.	1.6	17
52	Three-point correlation functions in uniformly and randomly driven diffusive systems. Physical Review E, 1993, 48, 800-809.	2.1	16
53	Finger formation in a driven diffusive system. Physical Review A, 1991, 43, 5214-5222.	2.5	15
54	Interfacial correlation and dispersion in a non-equilibrium steady state system. Journal of Physics A, 1991, 24, L1399-L1404.	1.6	15

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55	Complete solution of the kinetics in a far-from-equilibrium Ising chain. Journal of Physics A, 2004, 37, L407-L413.	1.6	15
56	Power Spectra of the Total Occupancy in the Totally Asymmetric Simple Exclusion Process. Physical Review Letters, 2007, 99, 020601.	7.8	13
57	Extreme Thouless effect in a minimal model of dynamic social networks. Physical Review E, 2015, 91, 042102.	2.1	13
58	Nonequilibrium Oscillations, Probability Angular Momentum, and the Climate System. Journal of Statistical Physics, 2020, 179, 1010-1027.	1.2	13
59	Understanding the edge effect in TASEP with mean-field theoretic approaches. Journal of Physics A: Mathematical and Theoretical, 2009, 42, 015002.	2.1	12
60	Viability of competing field theories for the driven lattice gas. Physical Review E, 2000, 61, 5977-5980.	2.1	11
61	Convection cells induced by spontaneous symmetry breaking. Europhysics Letters, 2010, 89, 50001.	2.0	11
62	On singularities in the disordered phase of a driven diffusive system. European Physical Journal B, 1995, 97, 327-332.	1.5	10
63	Power spectra of a constrained totally asymmetric simple exclusion process. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P07014.	2.3	10
64	Networks with preferred degree: a mini-review and some new results. Journal of Statistical Mechanics: Theory and Experiment, 2015, 2015, P07013.	2.3	10
65	Title is missing!. Journal of Statistical Physics, 1998, 91, 525-539.	1.2	9
66	Exact dynamics of a reaction-diffusion model with spatially alternating rates. Physical Review E, 2005, 71, 056129.	2.1	9
67	Percolation of a collection of finite random walks: a model for gas permeation through thin polymeric membranes. Journal of Mathematical Chemistry, 2009, 45, 58-64.	1.5	9
68	Exact microcanonical statistical analysis of transition behavior in Ising chains and strips. Journal of Statistical Mechanics: Theory and Experiment, 2020, 2020, 073204.	2.3	9
69	A lattice-gas hamiltonian for micellar binary solutions. Journal of Statistical Physics, 1988, 50, 839-848.	1.2	8
70	Phase transitions in a nonequilibrium Potts model: A Monte Carlo study of critical behavior. Physical Review E, 1994, 49, 5871-5874.	2.1	8
71	Competition for finite resources. Journal of Statistical Mechanics: Theory and Experiment, 2012, 2012, P05008.	2.3	8
72	Modeling interacting dynamic networks: I. Preferred degree networks and their characteristics. Journal of Statistical Mechanics: Theory and Experiment, 2013, 2013, P08001.	2.3	8

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73	Nonequilibrium statistical mechanics of a two-temperature Ising ring with conserved dynamics. Physical Review E, 2014, 90, 062113.	2.1	8
74	Phase Transitions in a Driven Lattice Gas with Anisotropic Interactions. Journal of Statistical Physics, 1999, 95, 981-996.	1.2	7
75	Energy flux near the junction of two Ising chains at different temperatures. Europhysics Letters, 2010, 91, 50003.	2.0	7
76	Modeling interacting dynamic networks: II. Systematic study of the statistical properties of cross-links between two networks with preferred degrees. Journal of Statistical Mechanics: Theory and Experiment, 2014, 2014, P05021.	2.3	7
77	Exact results for a simple epidemic model on a directed network: Explorations of a system in a nonequilibrium steady state. Physical Review E, 2014, 90, 032107.	2.1	7
78	Symmetric Fresnel equations: An energy conservation approach. American Journal of Physics, 1988, 56, 555-558.	0.7	6
79	Subtleties in data analysis related to the size of critical region. Journal of Statistical Physics, 1996, 83, 1219-1223.	1.2	6
80	Driven Widom-Rowlinson lattice gas. Physical Review E, 2018, 97, 062126.	2.1	6
81	Network evolution induced by the dynamical rules of two populations. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P10018.	2.3	5
82	Manifest and Subtle Cyclic Behavior in Nonequilibrium Steady States. Journal of Physics: Conference Series, 2016, 750, 012003.	0.4	5
83	How does homophily shape the topology of a dynamic network?. Physical Review E, 2021, 104, 044311.	2.1	5
84	Classical orbits of a charged particle in a magnetic monopole field. American Journal of Physics, 1979, 47, 700-703.	0.7	4
85	The variety of singularities in models of first order phase transitions. Zeitschrift FÃ¼r Physik B Condensed Matter and Quanta, 1981, 41, 129-138.	1.9	4
86	Coevolution of nodes and links: Diversity-driven coexistence in cyclic competition of three species. Physical Review E, 2019, 99, 022309.	2.1	4
87	Mass transport perspective on an accelerated exclusion process: Analysis of augmented current and unit-velocity phases. Physical Review E, 2013, 87, 022146.	2.1	3
88	Microemulsions in the driven Widom-Rowlinson lattice gas. Physical Review E, 2021, 104, 064135.	2.1	3
89	Periodic one-dimensional hopping model with one mobile directional impurity. Journal of Statistical Physics, 1997, 87, 545-575.	1.2	2
90	Effects of homophily and heterophily on preferred-degree networks: mean-field analysis and overwhelming transition. Journal of Statistical Mechanics: Theory and Experiment, 2022, 2022, 013402.	2.3	2

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91	Watching a drunkard for 10 nights: A study of distributions of variances. American Journal of Physics, 2003, 71, 859-865.	0.7	1
92	Statistical mechanics of driven lattice gas models. AIP Conference Proceedings, 1992, , .	0.4	0
93	Spatial structures in a simple model of population dynamics for parasite-host interactions. Europhysics Letters, 2015, 111, 48001.	2.0	0
94	Emergence of a spectral gap in a class of random matrices associated with split graphs. Journal of Physics A: Mathematical and Theoretical, 2018, 51, 014002.	2.1	0
95	Exact results for the extreme Thouless effect in a model of network dynamics. Europhysics Letters, 2018, 124, 60008.	2.0	0