

# Kay JÃ¶rg Wiese

## List of Publications by Year in descending order

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106  
papers

2,564  
citations

172443

29  
h-index

223791

46  
g-index

106  
all docs

106  
docs citations

106  
times ranked

835  
citing authors

#	ARTICLE	IF	CITATIONS
1	Renormalization of Pinned Elastic Systems: How Does It Work Beyond One Loop?. Physical Review Letters, 2001, 86, 1785-1788.	7.8	188
2	Two-loop functional renormalization group theory of the depinning transition. Physical Review B, 2002, 66, .	3.2	174
3	Functional renormalization group and the field theory of disordered elastic systems. Physical Review E, 2004, 69, 026112.	2.1	100
4	Size distributions of shocks and static avalanches from the functional renormalization group. Physical Review E, 2009, 79, 051106.	2.1	84
5	Driven particle in a random landscape: Disorder correlator, avalanche distribution, and extreme value statistics of records. Physical Review E, 2009, 79, 051105.	2.1	80
6	Height fluctuations of a contact line: A direct measurement of the renormalized disorder correlator. Europhysics Letters, 2009, 87, 56001.	2.0	80
7	Avalanche-size distribution at the depinning transition: A numerical test of the theory. Physical Review B, 2009, 80, .	3.2	77
8	On the Perturbation Expansion of the KPZ Equation. Journal of Statistical Physics, 1998, 93, 143-154.	1.2	74
9	Numerical calculation of the functional renormalization group fixed-point functions at the depinning transition. Physical Review B, 2007, 75, .	3.2	60
10	Statistics of static avalanches in a random pinning landscape. Physical Review E, 2009, 79, 050101.	2.1	50
11	Random-Field Spin Models beyond 1 Loop: A Mechanism for Decreasing the Lower Critical Dimension. Physical Review Letters, 2006, 96, 197202.	7.8	47
12	Measuring Functional Renormalization Group Fixed-Point Functions for Pinned Manifolds. Physical Review Letters, 2007, 98, 155701.	7.8	45
13	Universal interface width distributions at the depinning threshold. Physical Review E, 2003, 68, 036128.	2.1	43
14	Avalanche shape and exponents beyond mean-field theory. Europhysics Letters, 2014, 108, 66002.	2.0	43
15	Functional renormalization group at largeNfor disordered elastic systems, and relation to replica symmetry breaking. Physical Review B, 2003, 68, .	3.2	40
16	Avalanches in mean-field models and the Barkhausen noise in spin-glasses. Europhysics Letters, 2010, 91, 57004.	2.0	40
17	Perturbation theory for fractional Brownian motion in presence of absorbing boundaries. Physical Review E, 2011, 83, 061141.	2.1	38
18	Avalanche dynamics of elastic interfaces. Physical Review E, 2013, 88, 022106.	2.1	38

#	ARTICLE	IF	CITATIONS
19	Functional Renormalization Group at LargeNfor Disordered Systems. Physical Review Letters, 2002, 89, 125702.	7.8	37
20	Generalized Arcsine Laws for Fractional Brownian Motion. Physical Review Letters, 2018, 120, 040603.	7.8	37
21	Experimental Evidence for Three Universality Classes for Reaction Fronts in Disordered Flows. Physical Review Letters, 2015, 114, 234502.	7.8	36
22	Scaling of Self-Avoiding Tethered Membranes: 2-Loop Renormalization Group Results. Physical Review Letters, 1996, 76, 4564-4567.	7.8	35
23	Fabry-Perot interference and spin filtering in carbon nanotubes. Physical Review B, 2003, 68, .	3.2	35
24	Equilibrium avalanches in spin glasses. Physical Review B, 2012, 85, .	3.2	34
25	Can Nonlinear Elasticity Explain Contact-Line Roughness at Depinning?. Physical Review Letters, 2006, 96, 015702.	7.8	33
26	Higher correlations, universal distributions, and finite size scaling in the field theory of depinning. Physical Review E, 2003, 68, 046118.	2.1	32
27	Exact Mapping of the Stochastic Field Theory for Manna Sandpiles to Interfaces in Random Media. Physical Review Letters, 2015, 114, 110601.	7.8	32
28	Functional renormalization group for anisotropic depinning and relation to branching processes. Physical Review E, 2003, 67, 016121.	2.1	30
29	Nonstationary dynamics of the Alessandro-Beatrice-Bertotti-Montorsi model. Physical Review E, 2012, 85, 031105.	2.1	30
30	How to measure functional RG fixed-point functions for dynamics and at depinning. Europhysics Letters, 2007, 77, 66001.	2.0	29
31	Two-loop functional renormalization for elastic manifolds pinned by disorder inNdimensions. Physical Review E, 2005, 72, 035101.	2.1	28
32	Extreme-value statistics of fractional Brownian motion bridges. Physical Review E, 2016, 94, 052105.	2.1	28
33	Critical discussion of the two-loop calculations for the Kardar-Parisi-Zhang equation. Physical Review E, 1997, 56, 5013-5017.	2.1	27
34	Freezing of Random RNA. Physical Review Letters, 2006, 96, 228101.	7.8	27
35	Maximum of a Fractional Brownian Motion: Analytic Results from Perturbation Theory. Physical Review Letters, 2015, 115, 210601.	7.8	27
36	New renormalization group results for scaling of self-avoiding tethered membranes. Nuclear Physics B, 1997, 487, 529-632.	2.5	26

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37	First-principles derivation of static avalanche-size distributions. <i>Physical Review E</i> , 2012, 85, 061102.	2.1	26
38	Coherent-state path integral versus coarse-grained effective stochastic equation of motion: From reaction diffusion to stochastic sandpiles. <i>Physical Review E</i> , 2016, 93, 042117.	2.1	26
39	Fractal dimension of critical curves in the $\phi^4$ -symmetric $\phi^4$ -model and crossover exponent at 6-loop order: Loop-erased random walks, self-avoiding walks. <i>Ising, Physical Review E</i> , 2020, 101, 012117.	2.1	26
40	Statics and dynamics of elastic manifolds in media with long-range correlated disorder. <i>Physical Review E</i> , 2006, 74, 061109.	2.1	25
41	Distribution of velocities in an avalanche. <i>Europhysics Letters</i> , 2012, 97, 46004.	2.0	25
42	Universal distribution of threshold forces at the depinning transition. <i>Physical Review E</i> , 2006, 74, 041110.	2.1	22
43	Cusps and shocks in the renormalized potential of glassy random manifolds: How functional renormalization group and replica symmetry breaking fit together. <i>Physical Review B</i> , 2008, 77, .	3.2	22
44	Statistics of avalanches with relaxation and Barkhausen noise: A solvable model. <i>Physical Review E</i> , 2013, 88, 032106.	2.1	21
45	Collective excitations in a large-d model for graphene. <i>Physical Review B</i> , 2014, 89, .	3.2	21
46	Perturbative expansion for the maximum of fractional Brownian motion. <i>Physical Review E</i> , 2016, 94, 012134.	2.1	21
47	The 4-loop $\hat{\beta}$ -function in the 2D non-Abelian Thirring model, and comparison with its conjectured exact form. <i>Nuclear Physics B</i> , 2003, 661, 577-607.	2.5	20
48	Self-avoiding tethered membranes at the tricritical point. <i>Nuclear Physics B</i> , 1995, 450, 495-557.	2.5	18
49	Elasticity of a contact-line and avalanche-size distribution at depinning. <i>Physical Review E</i> , 2010, 82, 011108.	2.1	17
50	Derivation of the functional renormalization group $\hat{\beta}$ -function at order for manifolds pinned by disorder. <i>Nuclear Physics B</i> , 2004, 701, 409-480.	2.5	16
51	Polymers and manifolds in static random flows: a renormalization group study. <i>Nuclear Physics B</i> , 1999, 552, 529-598.	2.5	15
52	The Passive Polymer Problem. <i>Journal of Statistical Physics</i> , 2000, 101, 843-891.	1.2	15
53	Dynamics of selfavoiding tethered membranes. I. Model A dynamics (Rouse model). <i>European Physical Journal B</i> , 1998, 1, 269-272.	1.5	14
54	First passage in an interval for fractional Brownian motion. <i>Physical Review E</i> , 2019, 99, 032106.	2.1	14

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55	Depinning in a two-layer model of plastic flow. <i>Physical Review B</i> , 2008, 78, .	3.2	13
56	Glassy Trapping of Manifolds in Nonpotential Random Flows. <i>Physical Review Letters</i> , 1998, 80, 2362-2365.	7.8	12
57	Polymerized Membranes, a Review**The author has won the Physics Prize of the Academy of Science in Göttingen. <i>Phase Transitions and Critical Phenomena</i> , 2001, , 253-480.	1.2	12
58	Field Theory Conjecture for Loop-Erased Random Walks. <i>Journal of Statistical Physics</i> , 2008, 133, 805-812.	1.2	12
59	A growth model for RNA secondary structures. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2008, 2008, P04008.	2.3	11
60	Spatial shape of avalanches in the Brownian force model. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2015, 2015, P08019.	2.3	11
61	Extreme events for fractional Brownian motion with drift: Theory and numerical validation. <i>Physical Review E</i> , 2020, 102, 022102.	2.1	11
62	Supersymmetry breaking in disordered systems and relation to functional renormalization and replica-symmetry breaking. <i>Journal of Physics Condensed Matter</i> , 2005, 17, S1889-S1898.	1.8	10
63	Systematic Field Theory of the RNA Glass Transition. <i>Physical Review Letters</i> , 2007, 98, 128102.	7.8	10
64	Functional renormalization-group approach to decaying turbulence. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2013, 2013, P04014.	2.3	10
65	Avalanches in tip-driven interfaces in random media. <i>Europhysics Letters</i> , 2016, 113, 10002.	2.0	10
66	Field theories for loop-erased random walks. <i>Nuclear Physics B</i> , 2019, 946, 114696.	2.5	9
67	Dynamics of selfavoiding tethered membranes. II. Inclusion of hydrodynamic interaction (Zimm model). <i>European Physical Journal B</i> , 1998, 1, 273-276.	1.5	8
68	Generalizing the O(N)-field theory to N-colored manifolds of arbitrary internal dimension D. <i>Nuclear Physics B</i> , 1998, 528, 469-522.	2.5	8
69	Large order behavior for self-avoiding membranes. <i>Nuclear Physics B</i> , 1998, 535, 555-595.	2.5	8
70	Distribution of velocities and acceleration for a particle in Brownian correlated disorder: Inertial case. <i>Physical Review E</i> , 2012, 85, 061116.	2.1	8
71	Distribution of joint local and total size and of extension for avalanches in the Brownian force model. <i>Physical Review E</i> , 2016, 93, 052142.	2.1	8
72	Pickandsâ€™ constant at first order in an expansion around Brownian motion. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2017, 50, 16LT04.	2.1	8

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73	Spatial shape of avalanches. Physical Review E, 2017, 96, 062116.	2.1	8
74	Sampling first-passage times of fractional Brownian motion using adaptive bisections. Physical Review E, 2020, 101, 043312.	2.1	8
75	Functionals of fractional Brownian motion and the three arcsine laws. Physical Review E, 2021, 104, 054112.	2.1	8
76	Classification of perturbations for membranes with bending rigidity. Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics, 1996, 387, 57-63.	4.1	7
77	Interference in disordered systems: A particle in a complex random landscape. Physical Review E, 2011, 83, 061116.	2.1	7
78	Super-rough phase of the random-phase sine-Gordon model: Two-loop results. Physical Review B, 2012, 86, .	3.2	7
79	Field theory of disordered elastic interfaces at 3-loop order: Critical exponents and scaling functions. Nuclear Physics B, 2018, 932, 589-618.	2.5	7
80	Depinning Transition of Charge-Density Waves: Mapping onto $\langle \mathcal{O} \rangle$ Symmetric $\langle \mathcal{M} \rangle$ $\langle \mathcal{I} \rangle$ Theory with $\langle \mathcal{M} \rangle$	7.8	7
81	Interacting crumpled manifolds. Journal of Physics A, 2002, 35, 1195-1229.	1.6	6
82	The Functional Renormalization Group Treatment of Disordered Systems, a Review. Annales Henri Poincare, 2003, 4, 505-528.	1.7	6
83	Le Doussal and Wiese Reply.. Physical Review Letters, 2007, 98, .	7.8	6
84	Non-Gaussian effects and multifractality in the Bragg glass. Europhysics Letters, 2014, 105, 16002.	2.0	6
85	Universal correlations between shocks in the ground state of elastic interfaces in disordered media. Physical Review E, 2016, 94, 012110.	2.1	6
86	Field theory of disordered elastic interfaces at 3-loop order: The $\hat{\mathcal{I}}^2$ -function. Nuclear Physics B, 2018, 932, 540-588.	2.5	6
87	Universal force correlations in an RNA-DNA unzipping experiment. Physical Review Research, 2020, 2, .	3.6	6
88	Random RNA under tension. Europhysics Letters, 2007, 78, 68003.	2.0	5
89	Shock statistics in higher-dimensional Burgers turbulence. Europhysics Letters, 2011, 96, 14005.	2.0	5
90	Exact form of the exponential correlation function in the glassy super-rough phase. Physical Review B, 2013, 87, .	3.2	5

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91	Span Observables: "When is a Foraging Rabbit No Longer Hungry?" Journal of Statistical Physics, 2020, 178, 625-643.	1.2	5
92	Mean-field theories for depinning and their experimental signatures. Physical Review E, 2021, 103, 052114.	2.1	5
93	Hausdorff dimension of the record set of a fractional Brownian motion. Electronic Communications in Probability, 2018, 23, .	0.4	4
94	Distribution of velocities in an avalanche, and related quantities: Theory and numerical verification. Europhysics Letters, 2019, 127, 46001.	2.0	4
95	Interacting crumpled manifolds: Exact results to all orders of perturbation theory. Europhysics Letters, 2003, 64, 371-377.	2.0	3
96	Instanton Calculus for the Self-Avoiding Manifold Model. Journal of Statistical Physics, 2005, 120, 875-1035.	1.2	3
97	Wetting and minimal surfaces. Physical Review E, 2007, 75, 031601.	2.1	3
98	Dynamical selection of critical exponents. Physical Review E, 2016, 93, 042105.	2.1	3
99	Why one needs a functional renormalization group to survive in a disordered world. Pramana - Journal of Physics, 2005, 64, 817-827.	1.8	2
100	Scaling behavior of tethered crumpled manifolds with inner dimension close to $d$ : Resumming the perturbation theory. Nuclear Physics B, 2005, 711, 530-564.	2.5	2
101	Fluctuation force exerted by a planar self-avoiding polymer. Europhysics Letters, 2009, 86, 22001.	2.0	2
102	Behavior of random RNA secondary structures near the glass transition. Physical Review E, 2019, 99, 022415.	2.1	2
103	Depinning and flow of a vortex line in a uniaxial random medium. Physical Review B, 2022, 105, .	3.2	2
104	Field theory of the RNA freezing transition. Journal of Statistical Mechanics: Theory and Experiment, 2009, 2009, P10019.	2.3	1
105	ANOMALOUS DIMENSIONS OF SOFT OPERATORS IN SUPERSYMMETRIC NONLINEAR SIGMA-MODELS. Modern Physics Letters A, 1993, 08, 3845-3852.	1.2	0
106	The Functional Renormalization Group Treatment of Disordered Systems, a Review. , 2003, , 505-528.		0