

Rodolfo Cuerno

List of Publications by Year in descending order

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106
papers

4,074
citations

136950

32
h-index

118850

62
g-index

107
all docs

107
docs citations

107
times ranked

1603
citing authors

#	ARTICLE	IF	CITATIONS
1	Dynamic Scaling of Ion-Sputtered Surfaces. <i>Physical Review Letters</i> , 1995, 74, 4746-4749.	7.8	476
2	Morphology of ion-sputtered surfaces. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2002, 197, 185-227.	1.4	446
3	Production of ordered silicon nanocrystals by low-energy ion sputtering. <i>Applied Physics Letters</i> , 2001, 78, 3316-3318.	3.3	226
4	Self-Organized Ordering of Nanostructures Produced by Ion-Beam Sputtering. <i>Physical Review Letters</i> , 2005, 94, 016102.	7.8	212
5	Stochastic Model for Surface Erosion via Ion Sputtering: Dynamical Evolution from Ripple Morphology to Rough Morphology. <i>Physical Review Letters</i> , 1995, 75, 4464-4467.	7.8	179
6	Superroughening versus intrinsic anomalous scaling of surfaces. <i>Physical Review E</i> , 1997, 56, 3993-3998.	2.1	159
7	Self-organized nanopatterning of silicon surfaces by ion beam sputtering. <i>Materials Science and Engineering Reports</i> , 2014, 86, 1-44.	31.8	142
8	Nonlinear Ripple Dynamics on Amorphous Surfaces Patterned by Ion Beam Sputtering. <i>Physical Review Letters</i> , 2006, 96, 086101.	7.8	140
9	Hydrodynamic approach to surface pattern formation by ion beams. <i>Applied Surface Science</i> , 2012, 258, 4171-4178.	6.1	102
10	Stress-induced solid flow drives surface nanopatterning of silicon by ion-beam irradiation. <i>Physical Review B</i> , 2012, 86, .	3.2	92
11	Power spectrum scaling in anomalous kinetic roughening of surfaces. <i>Physica A: Statistical Mechanics and Its Applications</i> , 1997, 246, 329-347.	2.6	74
12	Coupling of morphology to surface transport in ion-beam irradiated surfaces: Oblique incidence. <i>Physical Review B</i> , 2008, 78, .	3.2	74
13	Dynamics of Rough Interfaces in Chemical Vapor Deposition: Experiments and a Model for Silica Films. <i>Physical Review Letters</i> , 2000, 84, 3125-3128.	7.8	72
14	Noisy Kuramoto-Sivashinsky equation for an erosion model. <i>Physical Review E</i> , 1996, 54, 3577-3580.	2.1	71
15	Nanopatterning of silicon surfaces by low-energy ion-beam sputtering: dependence on the angle of ion incidence. <i>Nanotechnology</i> , 2002, 13, 304-308.	2.6	61
16	Intrinsic anomalous surface roughening of TiN films deposited by reactive sputtering. <i>Physical Review B</i> , 2006, 73, .	3.2	54
17	Observation and Modeling of Interrupted Pattern Coarsening: Surface Nanostructuring by Ion Erosion. <i>Physical Review Letters</i> , 2010, 104, 026101.	7.8	54
18	Order enhancement and coarsening of self-organized silicon nanodot patterns induced by ion-beam sputtering. <i>Applied Physics Letters</i> , 2006, 89, 233101.	3.3	53

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19	Nanoscale pattern formation at surfaces under ion-beam sputtering: A perspective from continuum models. Nuclear Instruments & Methods in Physics Research B, 2011, 269, 894-900.	1.4	49
20	Renormalization-group analysis of a noisy Kuramoto-Sivashinsky equation. Physical Review E, 1995, 52, 4853-4859.	2.1	48
21	Self-Organized Surface Nanopatterning by Ion Beam Sputtering. , 2009, , 323-398.		46
22	Influence of collision cascade statistics on pattern formation of ion-sputtered surfaces. Physical Review B, 2005, 71, .	3.2	44
23	Nonuniversality due to inhomogeneous stress in semiconductor surface nanopatterning by low-energy ion-beam irradiation. Physical Review B, 2015, 91, .	3.2	44
24	Deterministic chaos in the elastic pendulum: A simple laboratory for nonlinear dynamics. American Journal of Physics, 1992, 60, 73-79.	0.7	43
25	Anomalous scaling in a nonlocal growth model in the Kardar-Parisi-Zhang universality class. Physical Review E, 1998, 57, R2491-R2494.	2.1	43
26	A perspective on nanoscale pattern formation at surfaces by ion-beam irradiation. Journal of Applied Physics, 2020, 128, .	2.5	43
27	Multiparticle biased diffusion-limited aggregation with surface diffusion: A comprehensive model of electrodeposition. Physical Review E, 2000, 62, 161-173.	2.1	42
28	Anisotropic scaling of ripple morphologies on high-fluence sputtered silicon. Physical Review B, 2009, 79, .	3.2	37
29	Short-range stationary patterns and long-range disorder in an evolution equation for one-dimensional interfaces. Physical Review E, 2006, 74, 050103.	2.1	36
30	Growth dynamics of reactive-sputtering-deposited AlN films. Journal of Applied Physics, 2005, 97, 123528.	2.5	35
31	Transients due to Instabilities Hinder Kardar-Parisi-Zhang Scaling: A Unified Derivation for Surface Growth by Electrochemical and Chemical Vapor Deposition. Physical Review Letters, 2001, 87, 236103.	7.8	33
32	Microscopic Model for Thin Film Spreading. Physical Review Letters, 2002, 88, 206101.	7.8	33
33	Universality of cauliflower-like fronts: from nanoscale thin films to macroscopic plants. New Journal of Physics, 2012, 14, 103039.	2.9	33
34	Coupling of morphology to surface transport in ion-beam-irradiated surfaces: normal incidence and rotating targets. Journal of Physics Condensed Matter, 2009, 21, 224020.	1.8	32
35	Unstable Nonlocal Interface Dynamics. Physical Review Letters, 2009, 102, 256102.	7.8	31
36	Universal non-equilibrium phenomena at submicrometric surfaces and interfaces. European Physical Journal: Special Topics, 2007, 146, 427-441.	2.6	28

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37	Surface nanopatterns induced by ion-beam sputtering. <i>Journal of Physics Condensed Matter</i> , 2009, 21, 220301.	1.8	28
38	One-dimensional pattern of Au nanodots by ion-beam sputtering: formation and mechanism. <i>Nanotechnology</i> , 2011, 22, 285301.	2.6	26
39	Comment on "Kinetic Roughening of Ion-Sputtered Pd(001) Surface: Beyond the Kuramoto-Sivashinsky Model", <i>Physical Review Letters</i> , 2005, 94, 139601; author reply 139602.	7.8	22
40	Independence of interrupted coarsening on initial system order: ion-beam nanopatterning of amorphous versus crystalline silicon targets. <i>Journal of Physics Condensed Matter</i> , 2012, 24, 375302.	1.8	22
41	Fully nonlinear dynamics of stochastic thin-film dewetting. <i>Physical Review E</i> , 2015, 92, 061002.	2.1	22
42	Morphological stabilization and KPZ scaling by electrochemically induced co-deposition of nanostructured NiW alloy films. <i>Scientific Reports</i> , 2017, 7, 17997.	3.3	22
43	Unified moving-boundary model with fluctuations for unstable diffusive growth. <i>Physical Review E</i> , 2008, 78, 021601.	2.1	21
44	Strong anisotropy in surface kinetic roughening: Analysis and experiments. <i>Physical Review B</i> , 2012, 86, .	3.2	21
45	Stress-driven nonlinear dynamics of ion-induced surface nanopatterns. <i>Physical Review B</i> , 2019, 100, .	3.2	21
46	Role of nonlinearities and initial prepatterned surfaces in nanobead formation by ion-beam bombardment of Au(001): Experiments and theory. <i>Physical Review B</i> , 2013, 87, .	3.2	19
47	Comment on "Effects of Particle Shape on Growth Dynamics at Edges of Evaporating Drops of Colloidal Suspensions", <i>Physical Review Letters</i> , 2013, 111, 209601.	7.8	19
48	Generic equations for pattern formation in evolving interfaces. <i>New Journal of Physics</i> , 2007, 9, 102-102.	2.9	18
49	Pattern-Wavelength Coarsening from Topological Dynamics in Silicon Nanofoams. <i>Physical Review Letters</i> , 2014, 112, 094103.	7.8	18
50	Topology and the Kardar-Parisi-Zhang universality class. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2017, 2017, 023201.	2.3	17
51	Free fermionic elliptic reflection matrices and quantum group invariance. <i>Journal of Physics A</i> , 1993, 26, L605-L610.	1.6	16
52	Random geometry and the Kardar-Parisi-Zhang universality class. <i>New Journal of Physics</i> , 2015, 17, 033018.	2.9	16
53	Ion-beam nanopatterning of silicon surfaces under codeposition of non-silicide-forming impurities. <i>Physical Review B</i> , 2016, 93, .	3.2	16
54	Kinetic roughening in a realistic model of non-conserved interface growth. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2009, 2009, P02036.	2.3	15

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55	Kardar-Parisi-Zhang asymptotics for the two-dimensional noisy Kuramoto-Sivashinsky equation. <i>Physical Review E</i> , 2010, 82, 045202.	2.1	14
56	Nonuniversality of front fluctuations for compact colonies of nonmotile bacteria. <i>Physical Review E</i> , 2018, 98, 012407.	2.1	14
57	Pattern formation in stromatolites: insights from mathematical modelling. <i>Journal of the Royal Society Interface</i> , 2012, 9, 1051-1062.	3.4	13
58	Ion damage overrides structural disorder in silicon surface nanopatterning by low-energy ion beam sputtering. <i>Europhysics Letters</i> , 2015, 109, 48003.	2.0	13
59	The hidden quantum group of the eight-vertex free fermion model: q-Clifford algebras. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1993, 307, 56-60.	4.1	12
60	Dynamics of thin fluid films controlled by thermal fluctuations. <i>European Physical Journal: Special Topics</i> , 2015, 224, 379-387.	2.6	12
61	Dynamic effects induced by renormalization in anisotropic pattern forming systems. <i>Physical Review E</i> , 2011, 84, 015202.	2.1	11
62	Strong anisotropy in two-dimensional surfaces with generic scale invariance: Gaussian and related models. <i>Physical Review E</i> , 2012, 86, 051611.	2.1	11
63	Universal behavior of crystalline membranes: Crumpling transition and Poisson ratio of the flat phase. <i>Physical Review E</i> , 2016, 93, 022111.	2.1	11
64	Roughness evolution of Si surfaces upon Ar ion erosion. <i>Applied Surface Science</i> , 2010, 256, 5011-5014.	6.1	10
65	Circular Kardar-Parisi-Zhang equation as an inflating, self-avoiding ring polymer. <i>Physical Review E</i> , 2014, 89, 010401.	2.1	10
66	Macroscopic Response to Microscopic Intrinsic Noise in Three-Dimensional Fisher Fronts. <i>Physical Review Letters</i> , 2014, 113, 180602.	7.8	10
67	Order improvement of surface nanopatterns via substrate rocking under ion bombardment: Experiments and nonlinear models. <i>Physical Review B</i> , 2020, 102, .	3.2	10
68	Possible origin for the experimental scarcity of KPZ scaling in non-conserved surface growth. <i>Physica A: Statistical Mechanics and Its Applications</i> , 2002, 314, 192-199.	2.6	9
69	Intrinsic geometry approach to surface kinetic roughening. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2011, 2011, P05032.	2.3	9
70	Symmetry of surface nanopatterns induced by ion-beam sputtering: Role of anisotropic surface diffusion. <i>Physical Review B</i> , 2016, 93, .	3.2	9
71	Modeling heterogeneity and memory effects on the kinetic roughening of silica films grown by chemical vapor deposition. <i>Physical Review B</i> , 2003, 67, .	3.2	8
72	Dimensional fragility of the Kardar-Parisi-Zhang universality class. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2013, 2013, P11001.	2.3	8

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73	Collective evolution of submicron hillocks during the early stages of anisotropic alkaline wet chemical etching of Si(100) surfaces. <i>Journal Physics D: Applied Physics</i> , 2017, 50, 435306.	2.8	8
74	Surface nanopatterning by ion beam irradiation: compositional effects. <i>Journal of Physics Condensed Matter</i> , 2022, 34, 333002.	1.8	8
75	Strong anisotropy in two-dimensional surfaces with generic scale invariance: Nonlinear effects. <i>Physical Review E</i> , 2014, 89, 042407.	2.1	7
76	Stress vs sputtering effects in the propagation of surface ripples produced by ion-beam sputtering. <i>Nuclear Instruments & Methods in Physics Research B</i> , 2015, 365, 13-16.	1.4	7
77	Concurrent segregation and erosion effects in medium-energy iron beam patterning of silicon surfaces. <i>Journal of Physics Condensed Matter</i> , 2018, 30, 274001.	1.8	7
78	Non-KPZ fluctuations in the derivative of the Kardar-Parisi-Zhang equation or noisy Burgers equation. <i>Physical Review E</i> , 2020, 101, 052126.	2.1	7
79	Kardar-Parisi-Zhang universality class for the critical dynamics of reaction-diffusion fronts. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2020, 2020, 023203.	2.3	7
80	Transition between chaotic and stochastic universality classes of kinetic roughening. <i>Physical Review Research</i> , 2021, 3, .	3.6	7
81	Growth Dynamics of Crystalline Tensionless Surfaces. <i>Physical Review Letters</i> , 1997, 78, 4982-4985.	7.8	6
82	Dynamic renormalization group study of a generalized continuum model of crystalline surfaces. <i>Physical Review E</i> , 2001, 65, 016110.	2.1	6
83	Surface Morphologies of Ti and Ti-Al-V Bombarded by 1.0-MeV Au^{+} Ions. <i>Physical Review Applied</i> , 2017, 8, .	3.8	6
84	Kardar-Parisi-Zhang universality in first-passage percolation: the role of geodesic degeneracy. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2018, 2018, 063212.	2.3	6
85	Variational mean-field study of a continuum model of crystalline tensionless surfaces. <i>Physical Review E</i> , 2001, 63, 036104.	2.1	5
86	Phase transition in tensionless surfaces. <i>Biophysical Chemistry</i> , 2005, 115, 187-193.	2.8	5
87	Dynamical renormalization group study for a class of non-local interface equations. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2011, 2011, P10030.	2.3	5
88	On integrable quantum group invariant antiferromagnets. <i>Journal of Geometry and Physics</i> , 1993, 11, 453-462.	1.4	4
89	Single tensionless transition in the Laplacian roughening model. <i>Physical Review E</i> , 2006, 73, 015103.	2.1	4
90	Gaussian statistics as an emergent symmetry of the stochastic scalar Burgers equation. <i>Physical Review E</i> , 2019, 99, 042108.	2.1	4

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91	Nanopatterning of rotating highly oriented pyrolytic graphite (0001) surfaces by ion beam irradiation: Experiments and modeling. <i>Physical Review B</i> , 2022, 105, .	3.2	4
92	Morphological and Structural Aspects of Thin Films Prepared by Vapor Deposition. , 2001, , 229-280.		3
93	Anomalous behavior in temporal evolution of ripple wavelength under medium energy Ar ⁺ -ion bombardment on Si: A case of initial wavelength selection. <i>Journal of Applied Physics</i> , 2016, 119, 225301.	2.5	3
94	Spreading fronts of wetting liquid droplets: Microscopic simulations and universal fluctuations. <i>Physical Review E</i> , 2022, 105, .	2.1	3
95	Interplay between Morphology and Surface Transport in Nanopatterns Produced by Ion-Beam Sputtering. <i>Materials Research Society Symposia Proceedings</i> , 2007, 1059, 1.	0.1	2
96	Single-phase-field model of stepped surfaces. <i>Physical Review E</i> , 2009, 79, 021601.	2.1	2
97	Study of the growth mechanisms of low-pressure chemically vapour deposited silica films. <i>European Physical Journal Special Topics</i> , 1999, 09, Pr8-265-Pr8-271.	0.2	2
98	Quantum symmetries in the free field realization of W _n algebras. <i>Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics</i> , 1991, 271, 314-320.	4.1	1
99	Energy dependence of the ripple wavelength for ion-beam sputtering of silicon: Experiments and theory. , 2013, , .		1
100	Special issue on surfaces patterned by ion sputtering. <i>Journal of Physics Condensed Matter</i> , 2018, 30, 450301.	1.8	1
101	Morphological impact of low-energy Xe ⁺ irradiation on polycrystalline titanium targets. <i>Journal of Physics: Conference Series</i> , 2020, 1593, 012041.	0.4	1
102	Roughening by Ion Bombardment: A Stochastic Continuum Equation. <i>Materials Research Society Symposia Proceedings</i> , 1994, 367, 299.	0.1	0
103	Fractal and Non-Fractal Surfaces in Ion Sputtering. <i>Materials Research Society Symposia Proceedings</i> , 1995, 407, 259.	0.1	0
104	A Model for Ion-Sputtering: from Pattern Formation to Rough Surfaces. <i>Materials Research Society Symposia Proceedings</i> , 1995, 407, 307.	0.1	0
105	Crystalline lattice effects on tensionless surface dynamics. <i>Microelectronic Engineering</i> , 1998, 43-44, 497-505.	2.4	0
106	Modelling of silica film growth by chemical vapour deposition : Influence of the interface properties. <i>European Physical Journal Special Topics</i> , 2001, 11, Pr3-129-Pr3-140.	0.2	0