Theodore L Einstein

List of Publications by Year
in descending order

141 papers	4,578 citations	109311 35 h-index	114455 63 g-index
143 all docs	143 docs citations	143 times ranked	2567 citing authors

#	Article	IF	Citations
1	Two-step unconventional protocol for epitaxial growth in one dimension with hindered reactions. Physical Review E, 2019, 100, 052805.	2.1	1
2	Kinetic-thermodynamic model for carbon incorporation during step-flow growth of GaN by metalorganic vapor phase epitaxy. Physical Review Materials, 2019, 3, .	2.4	10
3	Strain-controlled magnetic and optical properties of monolayer <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mn>2</mml:mn><mml:mi mathvariant="normal">H</mml:mi><mml:mtext>â^</mml:mtext><mml:mi>TaS</mml:mi><mml:msub><mml:mi mathvariant="normal">e</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math>. Physical Review Materials, 2019, 3, .	2.4	9
4	Patterns of Organics on Substrates with Metallic Surface States: Why?, So??. E-Journal of Surface Science and Nanotechnology, 2018, 16, 201-208.	0.4	1
5	Competing growth processes induced by next-nearest-neighbor interactions: Effects on meandering wavelength and stiffness. Physical Review B, 2017, 95, .	3.2	6
6	Coverage dependent molecular assembly of anthraquinone on Au(111). Journal of Chemical Physics, 2017, 147, 184701.	3.0	3
7	Fragmentation approach to the point-island model with hindered aggregation: Accessing the barrier energy. Physical Review E, 2017, 96, 012804.	2.1	7
8	Progress in characterizing submonolayer island growth: Capture-zone distributions, growth exponents, & hot precursors. Journal of Physics: Conference Series, 2015, 640, 012024.	0.4	5
9	Chemical insight from density functional modeling of molecular adsorption: Tracking the bonding and diffusion of anthracene derivatives on Cu(111) with molecular orbitals. Journal of Chemical Physics, 2015, 142, 101907.	3.0	7
10	How â€œHot Precursorsâ€ Modify Island Nucleation: A Rate-Equation Model. Physical Review Letters, 2014, 113, 246101.	7.8	18
11	Dynamical Scaling Implications of Ferrari, Prähofer, and Spohnâ€™s Remarkable Spatial Scaling Results for Facet-Edge Fluctuations. Journal of Statistical Physics, 2014, 155, 1178-1190.	1.2	5
12	Analyzing capture zone distributions (CZD) in growth: Theory and applications. Journal of Crystal Growth, 2014, 401, 67-71.	1.5	15
13	Anisotropic Etching of Atomically Thin MoS$_2$. Journal of Physical Chemistry C, 2013, 117, 25643-25649.	3.1	176
14	Interacting steps with finite-range interactions: Analytical approximation and numerical results. Physical Review E, 2013, 87, 052405.	2.1	1
15	Response of the Shockley surface state to an external electrical field: A density-functional theory study of Cu(111). Physical Review B, 2012, 85, .	3.2	19
16	Publisherâ€™s Note: Anisotropic surface-state-mediated RKKY interaction between adatoms [Phys. Rev. B85, 045429 (2012)]. Physical Review B, 2012, 85, .	3.2	0
17	â€œThe Princess and the Peaâ€ at the Nanoscale: Wrinkling and Delamination of Graphene on Nanoparticles. Physical Review X, 2012, 2, .	8.9	35
18	Charge Inhomogeneity Determines Oxidative Reactivity of Graphene on Substrates. ACS Nano, 2012, 6, 8335-8341.	14.6	62

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19	Anisotropic surface-state-mediated RKKY interaction between adatoms. Physical Review B, 2012, 85, .	3.2	19
20	Mean-field approximation for spacing distribution functions in classical systems. Physical Review E, 2012, 85, 011151.	2.1	1
21	Do Two-Dimensional â€œNoble Gas Atomsâ€•Produce Molecular Honeycombs at a Metal Surface?. Nano Letters, 2011, 11, 2944-2948.	9.1	33
22	Monte Carlo study of the honeycomb structure of anthraquinone molecules on Cu(111). Physical Review B, 2011, 83, .	3.2	13
23	Voronoi cell patterns: Theoretical model and applications. Physical Review E, 2011, 84, 051135.	2.1	14
24	Role of codeposited impurities during growth. I. Explaining distinctive experimental morphology on Cu(0 0 1). Physical Review B, 2011, 83, .	3.2	14
25	Role of codeposited impurities during growth. II. Dependence of morphology on binding and barrier energies. Physical Review B, 2011, 83, .	3.2	14
26	Spacing distribution functions for the one-dimensional point-island model with irreversible attachment. Physical Review E, 2011, 84, 011601.	2.1	22
27	Stochastic Models of Epitaxial Growth. Materials Research Society Symposia Proceedings, 2011, 1318, 1.	0.1	0
28	Coalescence of 3-phenyl-propynenitrile on Cu(111) into interlocking pinwheel chains. Journal of Chemical Physics, 2011, 135, 134705.	3.0	2
29	Epitaxial Growth Writ Large. Science, 2010, 327, 423-424.	12.6	16
30	Effective elastic properties of a van der Waals molecular monolayer at a metal surface. Physical Review B, 2010, 82, .	3.2	18
31	Strong Quantum Size Effects in Pb(111) Thin Films Mediated by Anomalous Friedel Oscillations. Physical Review Letters, 2010, 105, 066101.	7.8	35
32	Publisher's Note: Effective elastic properties of a van der Waals molecular monolayer at a metal surface [Phys. Rev. B**82**, 201410 (2010)]. Physical Review B, 2010, 82, .	3.2	0
33	Adsorbates in a Box: Titration of Substrate Electronic States. Physical Review Letters, 2010, 105, 066104.	7.8	41
34	One-dimensional model of interacting-step fluctuations on vicinal surfaces: Analytical formulas and kinetic Monte Carlo simulations. Physical Review E, 2010, 82, 061601.	2.1	7
35	Pimpinelli and Einstein Reply:. Physical Review Letters, 2010, 104, .	7.8	31
36	Power of Confinement: Adsorbate Dynamics on Nanometer-Scale Exposed Facets. Nano Letters, 2010, 10, 3700-3703.	9.1	20

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37	Rings sliding on a honeycomb network: Adsorption contours, interactions, and assembly of benzene on Cu(111). Physical Review B, 2009, 80, .	3.2	73
38	Terrace-width distributions of touching steps: Modification of the fermion analogy with implications for measuring step-step interactions. Physical Review B, 2009, 80, .	3.2	5
39	Impurity Decoration for Crystal Shape Control:<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi mathvariant="normal">C</mml:mi><mml:mn>60</mml:mn></mml:msub></mml:math>on Ag(111). Physical Review Letters, 2009, 102, 085501.	7.8	11
40	Narrowing of terrace-width distributions during growth on vicinal surfaces. Europhysics Letters, 2009, 88, 26005.	2.0	8
41	Effects of impurities on surface morphology: some examples. Journal of Physics Condensed Matter, 2009, 21, 084215.	1.8	9
42	Understanding surface limiting processes occurring during the relaxation of steps on vicinal surfaces. Journal of Physics Condensed Matter, 2008, 20, 355001.	1.8	4
43	Effect of impurities on pentacene island nucleation. Physical Review B, 2008, 77, .	3.2	28
44	Step line tension and step morphological evolution on the Si(111)<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mo>(</mml:mo><mml:mn>1</mml:mn><mml:mo>×</mml:mo><mml:mn>1</mml:mn><mml:mo Physical Review B, 2008, 77, .	3.2	34
45	Capture-Zone Scaling in Island Nucleation: Universal Fluctuation Behavior. Physical Review Letters, 2007, 99, 226102.	7.8	71
46	Analytic Formulas for the Orientation Dependence of Step Stiffness and Line Tension: Key Ingredients for Numerical Modeling. Multiscale Modeling and Simulation, 2007, 6, 90-104.	1.6	14
47	Metalâˆ'Molecule Interface Fluctuations. Nano Letters, 2007, 7, 1495-1499.	9.1	13
48	Step fluctuations onAg(111)surfaces withC60. Physical Review B, 2006, 73, .	3.2	15
49	Refined evaluation of the level-spacing distribution of symplectic ensembles: Moments and implications. Physical Review E, 2006, 73, 017101.	2.1	1
50	Distinctive Fluctuations in a Confined Geometry. Physical Review Letters, 2006, 97, 080601.	7.8	27
51	Step-position distributions and the pairwise Einstein model for steps on crystal surfaces. Physical Review B, 2006, 73, .	3.2	3
52	Extended lattice gas interactions of Cu on Cu(111) and Cu(001):Ab initioevaluation and implications. Physical Review B, 2006, 73, .	3.2	34
53	Correlations in nanoscale step fluctuations: Comparison of simulation and experiments. Physical Review B, 2006, 73, .	3.2	4
54	Beyond the Wigner distribution: SchrÃ¶dinger equations and terrace width distributions. Physical Review E, 2005, 72, 016124.	2.1	11

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55	Evolution of Terrace-Width Distributions on Vicinal Surfaces: Fokker-Planck Derivation of the Generalized Wigner Surmise. Physical Review Letters, 2005, 95, 246101.	7.8	21
56	Fluctuations, line tensions, and correlation times of nanoscale islands on surfaces. Physical Review B, 2005, 71, .	3.2	11
57	Low-temperature orientation dependence of step stiffness on {111} surfaces. Physical Review B, 2005, 71, .	3.2	29
58	Effects of next-nearest-neighbor interactions on the orientation dependence of step stiffness:â€ƒReconciling theory with experiment for Cu(001). Physical Review B, 2004, 70, .	3.2	28
59	Distinguishing step relaxation mechanisms via pair correlation functions. Physical Review B, 2004, 70, .	3.2	9
60	Analysis of terrace-width distributions using the generalized Wigner surmise: Calibration using Monte Carlo and transfer-matrix calculations. Physical Review B, 2004, 69, .	3.2	18
61	Applications of Ideas from Random Matrix Theory to Step Distributions on â€œMisorientedâ€•Surfaces. Annales Henri Poincare, 2003, 4, 811-824.	1.7	18
62	Orientation dependence of the Cu(001) surface step stiffness:â€,â€‚Failure of solid-on-solid and Ising models to describe experimental data. Physical Review B, 2003, 67, .	3.2	42
63	Dynamics of step fluctuations on a chemically heterogeneous surface of Al/Si(111)-(3Ã—3). Physical Review B, 2002, 66, .	3.2	18
64	Si(111) step fluctuations at high temperature: Anomalous step-step repulsion. Physical Review B, 2002, 66, .	3.2	20
65	Step Fluctuations: From Equilibrium Analysis to Step Unbunching and Cluster Diffusion in a Unified Picture. , 2002, , 83-96.		0
66	Surface-stateâ€"mediated three-adsorbate interaction. Europhysics Letters, 2002, 59, 265-271.	2.0	37
67	SCHRIEFFER'S CONTRIBUTIONS TO SURFACE PHYSICS. World Scientific Series in 20th Century Physics, 2002, , 305-310.	0.0	0
68	Influence of the electrochemical potential on energy landscapes near step- and island-edges: Ag(100) and Ag(111). Applied Surface Science, 2001, 175-176, 49-54.	6.1	11
69	Electromigration of single-layer clusters. Physical Review B, 2000, 62, 13697-13706.	3.2	51
70	Decay of Silicon Mounds: Scaling Laws and Description with Continuum Step Parameters. Physical Review Letters, 2000, 84, 3662-3665.	7.8	49
71	Edge Diffusion during Growth: The Kink Ehrlich-Schwoebel Effect and Resulting Instabilities. Physical Review Letters, 1999, 82, 3661-3664.	7.8	169
72	Influence of The Electrochemical Environment on Diffusion Processes Near Step and Island Edges: Ag(111) and Ag(100). Materials Research Society Symposia Proceedings, 1999, 580, 195.	0.1	3

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73	Unified view of step-edge kinetics and fluctuations. Physical Review B, 1998, 57, 4782-4797.	3.2	99
74	Fluctuations of Step Edges: Revelations About Atomic Processes Underlying Surface Mass Transport. Materials Research Society Symposia Proceedings, 1998, 528, 237.	0.1	2
75	Oscillatory interaction of steps on W{110}. Physical Review B, 1996, 54, 2910-2916.	3.2	15
76	Bending-rigidity-driven transition and crumpling-point scaling of lattice vesicles. Physical Review E, 1996, 53, 5800-5807.	2.1	8
77	Brownian motion and shape fluctuations of single-layer adatom and vacancy clusters on surfaces: Theory and simulations. Physical Review B, 1996, 54, 11752-11761.	3.2	120
78	Phase diagram of a two-dimensional lattice-gas model of oxygen ordering inYBa2Cu3Ozwith realistic interactions. Physical Review B, 1995, 52, 9784-9792.	3.2	24
79	Diffusion of Monolayer Adatom and Vacancy Clusters: Langevin Analysis and Monte Carlo Simulations of their Brownian Motion. Physical Review Letters, 1995, 75, 2148-2151.	7.8	163
80	Brownian motion of steps on Si(111). Physical Review B, 1993, 48, 15453-15456.	3.2	148
81	Step doubling and related transitions on vicinal surfaces. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1992, 10, 2600-2605.	2.1	19
82	Self-avoiding surfaces, topology, and lattice animals. Physical Review Letters, 1992, 69, 3650-3653.	7.8	21
83	Distribution of terrace widths on a vicinal surface within the one-dimensional free-fermion model. Physical Review B, 1991, 43, 8153-8162.	3.2	99
84	Multisite lateral interactions and their consequences. Langmuir, 1991, 7, 2520-2527.	3.5	49
85	Self-avoiding random surfaces: Monte Carlo study using oct-tree data-structure. Journal of Physics A, 1991, 24, 4619-4635.	1.6	25
86	Terrace-Width Distributions on Vicinal Si(111). Physical Review Letters, 1991, 66, 677-677.	7.8	2
87	First-order transitions between surface phases with different step structures. Physical Review Letters, 1991, 66, 961-961.	7.8	39
88	Terrace-width distributions on vicinal Si(111). Physical Review Letters, 1990, 65, 2430-2433.	7.8	167
89	Disordering of the (3×1) reconstruction on Si(113) and the chiral three-state Potts model. Physical Review Letters, 1990, 64, 2410-2413.	7.8	56
90	Phase diagram and critical properties of a two-dimensional lattice-gas model of oxygen ordering inYBa2Cu3Oz. Physical Review B, 1989, 40, 10759-10765.	3.2	57

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91	Critical Phenomena of Chemisorbed Atoms and Reconstruction â€" Revisited. Springer Series in Surface Sciences, 1988, , 307-339.	0.3	10
92	Critical Phenomena of Surface Phase Transitions: Theoretical Studies of the Structure Factor. Springer Series in Surface Sciences, 1988, , 475-479.	0.3	0
93	On the universality class of planar self-avoiding surfaces with fixed boundary. Journal of Physics A, 1987, 20, L105-L111.	1.6	21
94	Reaction and structure of Ti on Si probed by surface extended energyâ€loss fine structure and extended appearance potential fine structure. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1987, 5, 847-851.	2.1	8
95	Angular momentum branching ratios for electron-induced ionization: Atomic and model calculations. Physical Review B, 1987, 36, 9011-9024.	3.2	13
96	Structure factors associated with the melting of a (31) ordered phase on a centered-rectangular lattice gas: Effective scaling in a three-state chiral-clock-like model. Physical Review B, 1987, 35, 4812-4818.	3.2	22
97	Structure factors associated with the continuous melting of two-dimensional lattice gases: Models with (âˆš3Ã—âˆš3)R30Â° and$p(2Ã—2)$ ordered states on triangular nets. Physical Review B, 1987, 35, 1776-1790.	3.2	43
98	Summary Abstract: Structure factors of twoâ€dimensional lattice gases: Theoretical investigation of some aspects of the capability of lowâ€energy electron diffraction to measure critical phenomena of surface phase transitions. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1987, 5, 647-648.	2.1	0
99	Structure factors associated with melting of a p(22) ordered phase on a honeycomb lattice gas: Possible critical scattering at a first-order transition. Physical Review B, 1987, 35, 6786-6791.	3.2	12
100	Electron-induced extended-fine-structure measurements of thin-film growth and reaction. Physical Review B, 1987, 36, 5941-5948.	3.2	19
101	Proposed decorated lattice-gas model of H/Pd(100). Physical Review Letters, 1987, 59, 244-244.	7.8	7
102	Wavevector scaling, surface critical behavior, and wetting in the 2-d, 3-state chiral clock model. European Physical Journal B, 1987, 67, 357-361.	1.5	8
103	Finite-size effects on the critical structure factor of the two-dimensional Ising model. Journal of Physics A, 1986, 19, 1429-1438.	1.6	19
104	Transfer-matrix approach to estimating coverage discontinuities and multicritical-point positions in two-dimensional lattice-gas phase diagrams. Physical Review B, 1986, 34, 1616-1623.	3.2	63
105	Comment on â€˜â€˜Reliability of low-energy electron diffraction for studies of surface order-disorder phenomenaâ€™â€™. Physical Review Letters, 1986, 56, 2881-2881.	7.8	16
106	Two-dimensional ordering of chlorine on Ag(100). Physical Review B, 1985, 32, 4653-4659.	3.2	55
107	Summary Abstract: Studying surface phase transitions with probes of short range order. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1985, 3, 1568-1569.	2.1	6
108	Phase Diagram of Selenium Adsorbed on the Ni(100) Surface: A Physical Realization of the Ashkin-Teller Model. Physical Review Letters, 1985, 54, 1539-1542.	7.8	66

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109	Theory and feasibility of using low-energy electron diffraction to study specific-heat anomalies at surface phase transitions. Physical Review B, 1985, 32, 2993-3002.	3.2	71
110	Measurement of the Specific Heat Critical Exponent Using LEED. Springer Series in Surface Sciences, 1985, , 357-360.	0.3	2
111	Optimization of data end points and taper width in extended absorption fine-structure analysis. Physical Review B, 1984, 29, 1048-1049.	3.2	2
112	Triangular lattice gas with first- and second-neighbor exclusions: Continuous transition in the four-state Potts universality class. Physical Review B, 1984, 30, 5339-5341.	3.2	19
113	Summary Abstract: Pseudodipole selection rules for extended fine structure in APS: Calculations and applications. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1984, 2, 862-863.	2.1	5
114	Summary Abstract: Relationship between manyâ€parameter lattice gas systems and simpler models: Easy approximations for Tc. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1984, 2, 1006-1007.	2.1	5
115	Summary Abstract: (2Ã—2) phase transitions on honeycomb lattices. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 1983, 1, 1217-1218.	2.1	8
116	Extended Fine Structure in APS. Springer Series in Chemical Physics, 1983, , 391-393.	0.2	1
117	Extended absorption fine structure analysis of surface structure. Applications of Surface Science, 1982, 11-12, 42-63.	1.0	35
118	Critical Phenomena of Chemisorbed Overlayers. Springer Series in Chemical Physics, 1982, , 251-280.	0.2	5
119	Twoâ€dimensional chemisorbed phases. Journal of Vacuum Science and Technology, 1981, 18, 492-499.	1.9	51
120	Roelofs, Bartelt, and Einstein Respond. Physical Review Letters, 1981, 47, 1348-1348.	7.8	11
121	Critical Exponents of a Four-State Potts Chemisorbed Overlayer:p(2Ã—2)Oxygen on Ni(111). Physical Review Letters, 1981, 46, 1465-1468.	7.8	118
122	Summary Abstract: Oxidation studies by extended appearance potential fine structure (EAPFS). Journal of Vacuum Science and Technology, 1981, 18, 490-491.	1.9	9
123	Extended Appearance Potential Fine Structure (EAPFS) as a Tool for Analyzing the Geometrical Properties of Solid Surfaces. , 1981, , 667-670.		0
124	Effect of the central atom potential on the extended fine structure above appearance potential thresholds. Physical Review B, 1980, 21, 2108-2121.	3.2	15
125	Extended appearance potential fine structure analysis of oxidized metal surfaces. Journal of Vacuum Science and Technology, 1980, 17, 59-62.	1.9	16
126	Summary Abstract: O/Ni(111): Adlayer phases and binding sites. Journal of Vacuum Science and Technology, 1980, 17, 231-232.	1.9	19

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127	Extended Appearance-Potential Fine-Structure Analysis: Oxygen on Al(100). Physical Review Letters, 1980, 44, 496-500.	7.8	74
128	Theoretical Issues in Chemisorption. Topics in Current Physics, 1980, , 183-235.	0.5	10
129	Adlayer–induced LEED beams near order–disorder transitions. Journal of Vacuum Science and Technology, 1979, 16, 478-482.	1.9	29
130	The three-adatom non-pairwise (“trio”) interaction, with implications for Monte Carlo simulations of O/W(110). Surface Science, 1979, 84, L497-L504.	1.9	64
131	The shapes of islands of chemisorbed atoms as a probe of long-range interadatom interactions. Surface Science, 1979, 83, 141-161.	1.9	11
132	Theory of indirect interaction between chemisorbed atoms. Critical Reviews in Solid State and Materials Sciences, 1978, 7, 261-288.	12.3	146
133	Comment on “oscillatory indirect interaction between adsorbed atoms —” Non-asymptotic behavior in tight-binding models at realistic parameters“by K.H. Lau and W. Kohn. Surface Science, 1978, 75, 161-167.	1.9	58
134	Multiadatom effects in the chemisorption energy of ordered overlayers. Physical Review B, 1977, 16, 3411-3414.	3.2	30
135	Changes in density of states caused by chemisorption. Physical Review B, 1975, 12, 1262-1274.	3.2	48
136	Short-chain model of chemisorption: Exact and approximate results. Physical Review B, 1975, 11, 577-587.	3.2	38
137	Theory of Chemisorption in Relation to Heterogeneous Catalysis. , 1975, , 295-316.		3
138	Changes in density of states caused by chemisorption, with implications for photoemission. Surface Science, 1974, 45, 713-720.	1.9	43
139	Surface Density of States on Crystalline Transition Metal Substrates. Japanese Journal of Applied Physics, 1974, 13, 691.	1.5	17
140	Statistical Mechanics of a Simple Model of a Displacive Ferroelectric. Physical Review B, 1973, 7, 1932-1949.	3.2	14
141	Indirect Interaction between Adatoms on a Tight-Binding Solid. Physical Review B, 1973, 7, 3629-3648.	3.2	520