Juan M SÃ¡nchez

List of Publications by Year
in descending order

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100 papers	6,153 citations	87888 38 h-index	69250 77 g-index
104 all docs	104 docs citations	104 times ranked	2766 citing authors

#	Article	IF	Citations
1	Generalized cluster description of multicomponent systems. Physica A: Statistical Mechanics and Its Applications, 1984, 128, 334-350.	2.6	1,536
2	The fee Ising model in the cluster variation approximation. Physical Review B, 1978, 17, 2926-2936.	3.2	336
3	Ordering in fcc lattices with first- and second-neighbor interactions. Physical Review B, 1980, 21, 216-228.	3.2	200
4	Local stability of nonequilibrium phases. Physical Review Letters, 1994, 72, 3076-3079.	7.8	164
5	Ni-Pt Phase Diagram: Experiment and Theory. Physical Review Letters, 1985, 55, 1208-1211.	7.8	161
6	Overview no. 43. Acta Metallurgica, 1985, 33, 1171-1185.	2.1	142
7	First-principles calculation of the Ag-Cu phase diagram. Physical Review B, 1991, 44, 5411-5418.	3.2	135
8	Theoretical calculation of the CUî—ˌAGî—ˌAU coherent phase diagram. Acta Metallurgica, 1980, 28, 651-662.	2.1	127
9	Cluster expansion and the configurational theory of alloys. Physical Review B, 2010, 81, .	3.2	126
10	Comparison of approximate methods for the study of antiferromagnetism in the fcc lattice. Physical Review B, 1982, 26, 1465-1468.	3.2	124
11	Density-functional study ofFe3Al:LSDA versus GGA. Physical Review B, 2002, 65, .	3.2	119
12	Modeling of Î³/Î³â€² phase equilibrium in the nickel-aluminum system. Acta Metallurgica, 1984, 32, 1519-1525.	2.1	113
13	Cluster expansions and the configurational energy of alloys. Physical Review B, 1993, 48, 14013-14015.	3.2	113
14	Calculation of phase equilibrium in Al-Li alloys. Acta Metallurgica, 1986, 34, 1021-1028.	2.1	106
15	Ising model phase-diagram calculations in the fcc lattice with first- and second-neighbor interactions. Physical Review B, 1982, 25, 1759-1765.	3.2	97
16	Model for Anomalous Self-Diffusion in Group-IVBTransition Metals. Physical Review Letters, 1975, 35, 227-230.	7.8	95
17	Short range order diffuse intensity calculations in the cluster variation method. Acta Metallurgica, 1985, 33, 1463-1474.	2.1	92
18	Magnetic properties and chemical ordering in Co-Pt. Journal of Physics Condensed Matter, 1989, 1, 491-496.	1.8	88

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19	Theoretical description of phase equilibrium in binary alloys. Acta Metallurgica, 1985, 33, 1097-1104.	2.1	87
20	Structure and magnetism in bcc-based iron-cobalt alloys. Physical Review B, 2006, 73, .	3.2	87
21	First-principles study of the solubility of Zr in Al. Physical Review B, 2002, 65, .	3.2	84
22	Dynamical Scaling in the Glass SystemB2O3-PbO-Al2O3. Physical Review Letters, 1981, 47, 1308-1311.	7.8	82
23	Structural instabilities of excited phases. Physical Review B, 1997, 55, 787-797.	3.2	74
24	First-principles investigation of the Niâ€“Feâ€“Al system. Intermetallics, 2005, 13, 1096-1109.	3.9	73
25	Cluster-method study of surface effects in fcc binary alloys. Physical Review B, 1985, 32, 3534-3540.	3.2	71
26	Ordering and segregation at (001) surfaces of Cu3Au. Surface Science, 1985, 157, L297-L302.	1.9	70
27	Anomalous diffusion in omega forming systems. Acta Metallurgica, 1978, 26, 1083-1095.	2.1	64
28	First-order phase transitions in the Ising square lattice with first- and second-neighbor interactions. Physical Review B, 1993, 48, 3519-3522.	3.2	62
29	Modeling of ternary site occupation in L12 ordered intermetallics. Acta Metallurgica, 1989, 37, 2835-2840.	2.1	61
30	Pair correlations in the cluster variation approximation. Physica A: Statistical Mechanics and Its Applications, 1982, 111, 200-216.	2.6	60
31	New evidence for GP zones in binary Alî—¸Li alloys. Scripta Metallurgica, 1986, 20, 201-206.	1.2	60
32	Calculation of Thermodynamic Properties and Phase Diagrams of Binary Transition-Metal Alloys. Physical Review Letters, 1986, 57, 253-256.	7.8	58
33	Phase diagram and thermodynamic properties of Niî—¸Al alloys: A non-empirical evaluation. Solid State Communications, 1988, 65, 527-530.	1.9	52
34	First-principles study of short range order and instabilities in AuCu, AuAg and AuPd alloys. Acta Metallurgica Et Materialia, 1991, 39, 493-501.	1.8	51
35	SpontaneousL12Order atNi90Al10(110)Surfaces: An X-Ray and First-Principles-Calculation Study. Physical Review Letters, 2001, 87, 236102.	7.8	51
36	Ordering and layer composition at the Cu3Au(110) surface. Surface Science, 1990, 238, L481-L485.	1.9	50

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37	Modeling of magnetic and chemical ordering in binary alloys. Physical Review B, 1984, 30, 1448-1453.	3.2	38
38	Experimental and theoretical determination of the metastable Fe-V phase diagram. Physical Review B, 1996, 54, 8958-8961.	3.2	38
39	Oxygen order-disorder transition in the superconductorYBa2Cu3O6+Î´. Physical Review B, 1988, 37, 3678-3680.	3.2	35
40	Phase separation and dynamical scaling in borate glasses. Physical Review B, 1986, 34, 2762-2769.	3.2	34
41	Phase transitions in Ising square antiferromagnets with first- and second-neighbour interactions. Journal of Physics Condensed Matter, 1994, 6, 9759-9772.	1.8	34
42	Electronic-Structure calculation of ordering and segregation energies of transition metal alloys. Acta Metallurgica, 1988, 36, 367-375.	2.1	33
43	Mechanical properties of Rh-based L12 intermetallic compounds Rh3Ti, Rh3Nb and Rh3Ta. Intermetallics, 2000, 8, 785-791.	3.9	33
44	Magnetic properties and chemical ordering in Co-Pt. Journal of Physics C: Solid State Physics, 1988, 21, L1091-L1096.	1.5	32
45	Foundations and Practical Implementations of the Cluster Expansion. Journal of Phase Equilibria and Diffusion, 2017, 38, 238-251.	1.4	32
46	Ternary diffusion in multilayer Ag-Au-Cu thin films. Thin Solid Films, 1975, 25, 465-482.	1.8	31
47	Application of group theory to the calculation of the configurational entropy in the cluster variation method. Physica A: Statistical Mechanics and Its Applications, 1982, 113, 315-337.	2.6	30
48	Calculation of temperature-concentration diagrams by the cv method with Lennard-Jones pair interactions. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 1984, 8, 221-231.	1.6	28
49	Characterization of mechanical properties in the Irî—¸Nbî—¸Zr intermetallic system. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1993, 170, 169-175.	5.6	28
50	Thermal conductivity and thermal expansion of L12 intermetallic compounds based on rhodium. Journal of Alloys and Compounds, 2003, 354, 202-207.	5.5	27
51	Reciprocal-space analysis of short-range-order intensities by the cluster-variation method. Physical Review B, 1995, 51, 3429-3437.	3.2	26
52	Vibrational free energy in the Ni-Cr system. Computational Materials Science, 1997, 8, 92-99.	3.0	26
53	Electronic-structure calculations of binary-alloy phase diagrams. Physical Review B, 1986, 33, 4782-4792.	3.2	25
54	Boundary-condition effects on the surface magnetization of Ising ferromagnets. Physical Review B, 1989, 39, 9746-9748.	3.2	25

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55	Thermal conductivity and thermal expansion of Ir3X (X = Ti, Zr, Hf, V, Nb, Ta) compounds for high-temperature applications. Materials Chemistry and Physics, 2003, 80, 385-390.	4.0	25
56	Surface first-order phase transitions in fcc Ising ferromagnets. Physical Review Letters, 1987, 58, 1120-1122.	7.8	24
57	Experimental determination of pair interaction energies in aCoPt3single crystal and phase-diagram calculations. Physical Review B, 2000, 61, 14975-14983.	3.2	24
58	Atomic migration and ordering energies in FePd: Measurement and modeling. Scripta Materialia, 2005, 53, 435-440.	5.2	24
59	Diffusion in AgAuPd thin film microcouples. Acta Metallurgica, 1974, 22, 709-719.	2.1	22
60	Workshop on thermodynamic modelling of solutions and alloys. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 1997, 21, 219-246.	1.6	22
61	General relations between many-body potentials and cluster expansions in multicomponent systems. Journal of Physics Condensed Matter, 2004, 16, 3843-3852.	1.8	21
62	Characterization of the deformation behavior of the Cr2Nb ordered intermetallic system. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1993, 170, 177-183.	5.6	20
63	Short range order hardening with second neighbor interactions in fcc solid solutions. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1986, 17, 189-194.	1.4	19
64	Experimental determination of pair interactions in aFe0.804V0.196single crystal. Physical Review B, 1995, 51, 5760-5767.	3.2	19
65	Finite-Size Effects on First-Order Phase Transitions: fcc Binary Alloys. Physical Review Letters, 1986, 57, 360-363.	7.8	18
66	Ferromagnetism and chemical ordering in cobalt-iron. Journal of Physics F: Metal Physics, 1988, 18, 767-777.	1.6	18
67	On the analysis of diffusion anomalies in Ti alloys. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1981, 43, 1407-1417.	0.6	17
68	Modeling of the Fe-Al phase diagram. Physical Review B, 1988, 38, 11481-11485.	3.2	17
69	The effect of the structural energy of Cr on the Niî—¸Cr equilibrium phase diagram. Acta Metallurgica, 1989, 37, 121-127.	2.1	16
70	Workshop on thermodynamic models and data for pure elements and other endmembers of solutions. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 1995, 19, 481-498.	1.6	16
71	A microscopic theory of binary alloy phase equilibrium. Solid State Communications, 1985, 55, 253-256.	1.9	15
72	Modelling of the electrical resistivity of ferromagnetic and paramagnetic intermetallic compounds. Journal of Physics Condensed Matter, 1992, 4, 9053-9066.	1.8	15

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73	The phase diagram of oxygen ordering in YBa2Cu3O6+Î´. Physica C: Superconductivity and Its Applications, 1993, 210, 401-407.	1.2	14
74	Order-Disorder Transitions under Confinement. Physical Review Letters, 1998, 81, 1146-1149.	7.8	14
75	Theoretical study of thermodynamics relevant to tetramethylsilane pyrolysis. Journal of Crystal Growth, 1997, 178, 513-517.	1.5	13
76	Stress-Strain Behavior of Nicalon-Fiber-Reinforced Calcium Aluminosilicate Composites under Tensile Fatigue Conditions. Journal of the American Ceramic Society, 1993, 76, 2175-2179.	3.8	12
77	Small angle X-ray scattering study of phase separation in glasses using a new position sensitive detector. Nuclear Instruments & Methods in Physics Research, 1983, 208, 489-494.	0.9	11
78	Thermodynamic modeling of site occupation in the Î³â€² phase of the Niî—¸Alî—¸Hf system. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1989, 108, 159-164.	5.6	10
79	Pair correlations and interaction energies in FePd single crystal. European Physical Journal B, 2004, 41, 207-212.	1.5	10
80	First principles phase stability study of the Ruî—¸Nbî—¸Zr system. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1993, 170, 161-167.	5.6	8
81	Thermodynamic, electronic and magnetic properties of intermetallic compounds through statistical models. Physica Scripta, 1993, T49A, 364-372.	2.5	8
82	Simulation of chemical-vapor-deposited silicon carbide for a cold wall vertical reactor. Journal of Crystal Growth, 1997, 178, 505-512.	1.5	8
83	Approximate solutions to the cluster variation free energies by the variable basis cluster expansion. Computational Materials Science, 2016, 122, 301-306.	3.0	8
84	Modeling of phase diagrams for bcc magnetic alloys. Physical Review B, 1988, 38, 4955-4962.	3.2	7
85	Understanding the high-temperature deformation. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1992, 23, 3073-3076.	1.4	7
86	Ordering in fcc lattices by the Cluster Variation Method and Path Probability Method. Materials Transactions, JIM, 1992, 33, 558-564.	0.9	6
87	Thermodynamics of binary alloy thin films. Computational Materials Science, 1997, 8, 79-86.	3.0	6
88	Pseudo-three dimensional model of oxygen ordering in YBa2Cu3O6+Î´. Solid State Communications, 1991, 79, 151-154.	1.9	5
89	Structural energies and phase stability in Ni-Cr alloys. Bulletin of Alloy Phase Diagrams, 1989, 10, 319-326.	0.2	4
90	First-principles calculation of the Ni-Cr phase diagram. Solid State Ionics, 1989, 32-33, 714-720.	2.7	4

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91	Finite-size effects on the phase diagrams of binary alloy films. Solid State Communications, 1998, 107, 285-289.	1.9	4
92	Surface ferromagnetism in close-packed structures. Surface Science, 1988, 198, L299-L306.	1.9	3
93	Confinement effects in antiferromagnets. Physical Review B, 2000, 62, 1148-1156.	3.2	3
94	Cluster-method study of phase separation inâ˜43He mixtures. Physical Review B, 1986, 33, 5059-5061.	3.2	2
95	Continuous sequence of mean-field approximations and critical phenomena. Physica A: Statistical Mechanics and Its Applications, 1994, 209, 257-267.	2.6	2
96	Phase Transitions in Confined Antiferromagnets. Physica Status Solidi (B): Basic Research, 2000, 220, 389-394.	1.5	2
97	Reply to â€œComment on â€˜Cluster expansion and the configurational theory of alloysâ€¦. Physical Review B, 2017, 95, .	3.2	2
98	Investigations of the Co-Pt alloy phase diagram with neutron diffuse scattering, inverse cluster variation method, and Monte Carlo simulations. Physical Review B, 2020, 102, .	3.2	2
99	Intermetallic alloys and their composites: The promise and challenges remain. Jom, 1993, 45, 36-36.	1.9	0
100	Observation of crack closure in Nicalon/CAS composites. Journal of Materials Science Letters, 1995, 14, 571-573.	0.5	0