Ana Maria Serra Tort

List of Publications by Year
in descending order

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119 papers	4,579 citations	101543 36 h-index	102487 66 g-index
120 all docs	120 docs citations	120 times ranked	2081 citing authors

#	Article	IF	Citations
1	{111} tilt grain boundaries as barriers for slip transfer in bcc Fe. Computational Materials Science, 2022, 203, 111044.	3.0	6
2	Atomic-level study on the interaction of plastic slip with <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi mathvariant="normal">Î£</mml:mi><mml:mn>3</mml:mn><mml:mo>{</mml:mo><mml:mn>112</mml:mn><mml:mo>}</mml:mo></m tilt grain boundary and <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mo>{</mml:mo><mml:mn>112</mml:mn><mml:mo>}</mm	2.4	2
3	Unravelling the nucleation and growth of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si12.svg"><mml:mrow><mml:mo>{</mml:mo><mml:mn>11</mml:mn><mml:mtext>-</mml:mtext><mml:mover accent="true"><mml:mn>2</mml:mn><mml:mo>Â¯</mml:mo></mml:mover><mml:mn>2</mml:mn><mml:mo>}</mml:mo></mml:m twins in bcc metals. Physical Review Materials, 2022, 6, .	2.4	8
4	Disconnection-mediated motion of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mo>âŒ©</mml:mo><mml:mn>110</mml:mn><mml:mo>â tilt grain boundaries in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mi>Î±</mml:mi></mml:math> -Fe. Physical Review Materials, 2022, 6, .	2.4	0
5	Multiscale modelling for fusion and fission materials: The M4F project. Nuclear Materials and Energy, 2021, 29, 101051.	1.3	12
6	On the migration of {3Â3Â2}Âã€ˆ1Â1Â0ã€‰Âtilt grain boundary in bcc metals and further nucleation of {1Â1Â2} twin. Computational Materials Science, 2021, 196, 110509.	3.0	8
7	Physical mechanisms and parameters for models of microstructure evolution under irradiation in Fe alloys â€“ Part I: Pure Fe. Nuclear Materials and Energy, 2021, 29, 101069.	1.3	7
8	Interaction of a dislocation pileup with {332} tilt grain boundary in bcc metals studied by MD simulations. Physical Review Materials, 2021, 5, .	2.4	4
9	Review of Non-Classical Features of Deformation Twinning in hcp Metals and Their Description by Disconnection Mechanisms. Metals, 2020, 10, 1134.	2.3	26
10	Interaction of a mobile {1Â1Â2} grain boundary with radiation induced defects in Î±-Fe: Transformation of defects and impact on the shear-coupled grain boundary migration. Computational Materials Science, 2020, 179, 109679.	3.0	15
11	Atomic processes of shear-coupled migration in {112} twins and vicinal grain boundaries in bcc-Fe. Physical Review Materials, 2020, 4, .	2.4	17
12	On the common topological conditions for shear-coupled twin boundary migration in bcc and hcp metals. Letters on Materials, 2020, 10, 537-542.	0.7	6
13	Non-diffusional growth mechanism of I1 basal stacking-faults inside twins in hcp metals. Scripta Materialia, 2019, 172, 149-153.	5.2	16
14	Grain boundary mediated plasticity: The role of grain boundary atomic structure and thermal activation. Scripta Materialia, 2018, 145, 1-4.	5.2	21
15	Edge dislocations as sinks for sub-nanometric radiation induced defects in Î±-iron. Journal of Nuclear Materials, 2018, 498, 341-347.	2.7	4
16	Dislocation Structure and Mobility in Hcp Rare-Gas Solids: Quantum versus Classical. Crystals, 2018, 8, 64.	2.2	2
17	On the relationship between and conjugate twins and double extension twins in rolled pure Mg. Philosophical Magazine, 2017, 97, 1088-1101.	1.6	22
18	Effect of nickel on point defects diffusion in Fe â€“ Ni alloys. Acta Materialia, 2017, 132, 367-373.	7.9	35

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19	Slip dislocation and twin nucleation mechanisms in hcp metals. Journal of Materials Science, 2017, 52, 533-540.	3.7	43
20	Atomic displacements accompanying deformation twinning: shears and shuffles. Materials Research Letters, 2016, 4, 185-190.	8.7	58
21	The role of nickel in radiation damage of ferritic alloys. Acta Materialia, 2015, 84, 368-374.	7.9	20
22	Interaction of He and Heâ€“V clusters with self-interstitials and dislocations defects in bcc Fe. Journal of Nuclear Materials, 2015, 458, 11-21.	2.7	14
23	Evolution of Matrix-Twin Interfaces of (101Ì…2) Twin in Magnesium. Acta Physica Polonica A, 2015, 128, 661-664.	0.5	3
24	Characterization of the matrixâ€“twin interface of a (101Ì„2) twin during growth. Philosophical Magazine, 2014, 94, 2827-2839.	1.6	66
25	Dislocation glide in Feâ€“carbon solid solution: From atomistic to continuum level description. International Journal of Plasticity, 2014, 62, 34-49.	8.8	26
26	Carbonâ€“vacancy complexes as traps for self-interstitial clusters in Feâ€“C alloys. Journal of Nuclear Materials, 2013, 440, 236-242.	2.7	37
27	Atomic-level computer simulation of the interaction between $rac{1}{3}langle 1,1,ar{2},0 angle{1,ar{1},0,0}$ dislocations and $rac{1}{3}langle 1,1,ar{2},0 angle$ interstitial loops inÎ±-zirconium. Modelling and Simulation in Materials Science and Engineering, 2013, 21, 045007.	2.0	13
28	Atomic shearing and shuffling accompanying the motion of twinning disconnections in Zirconium. Philosophical Magazine, 2013, 93, 1279-1298.	1.6	76
29	Rejoinder to the response by B. Li on our Comment on the paper B. Li, H. El Kadiri and M.F. Horstemeyer â€˜Extended zonal dislocations mediating twinning in titaniumâ€™. Philosophical Magazine, 2013, 93, 3511-3514.	1.6	0
30	Disconnection Motion in Low- and High-Angle Symmetrical Tilt Grain Boundaries in HCP Metal. Materials Science Forum, 2013, 753, 125-130.	0.3	1
31	A comment on B. Li, H. El Kadiri and M.F. Horstemeyer â€˜Extended zonal dislocations mediating twinning in titaniumâ€™. Philosophical Magazine, 2013, 93, 3495-3503.	1.6	5
32	Interaction of dislocations with carbon-decorated dislocation loops in bcc Fe: an atomistic study. Journal of Physics Condensed Matter, 2012, 24, 455402.	1.8	11
33	The disconnection mechanism of coupled migration and shear at grain boundaries. Acta Materialia, 2012, 60, 2007-2020.	7.9	108
34	Interaction of ã€ˆ100ã€‰ loops with Carbon atoms and ã€ˆ100ã€‰ dislocations in BCC Fe: An atomistic study. Journal of Nuclear Materials, 2012, 420, 9-15.	2.7	16
35	On the structure and mobility of point defect clusters in alpha-zirconium: a comparison for two interatomic potential models. Modelling and Simulation in Materials Science and Engineering, 2011, 19, 035003.	2.0	22
36	Interaction of carbon with vacancy and self-interstitial atom clusters in Î±-iron studied using metallicâ€“covalent interatomic potential. Journal of Nuclear Materials, 2011, 408, 272-284.	2.7	55

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37	Comparison of empirical interatomic potentials for iron applied to radiation damage studies. Journal of Nuclear Materials, 2010, 406, 19-38.	2.7	217
38	Atomistic study of multimechanism diffusion by self-interstitial defects in Î±-Fe. Modelling and Simulation in Materials Science and Engineering, 2010, 18, 025008.	2.0	52
39	Interaction of a moving { } twin boundary with perfect dislocations and loops in a hcp metal. Philosophical Magazine, 2010, 90, 845-861.	1.6	37
40	Comment on â€œAtomic Shuffling Dominated Mechanism For Deformation Twinning In Magnesiumâ€• Physical Review Letters, 2010, 104, 029603; author reply 029604.	7.8	54
41	Elasticity to atomistics: Predictive modeling of defect behavior. Philosophical Magazine, 2010, 90, 803-804.	1.6	0
42	Structure and strength of ã€ˆ110ã€‰ tilt grain boundaries in bcc Fe: An atomistic study. Computational Materials Science, 2010, 49, 419-429.	3.0	55
43	Interaction of a single interstitial atom with small clusters of self interstitials in Î±-Fe. Journal of Nuclear Materials, 2008, 372, 239-248.	2.7	7
44	Disconnection arrays in a rhombohedral twin in Î±-alumina. Philosophical Magazine, 2008, 88, 1569-1579.	1.6	14
45	On the interaction between a vacancy and self-interstitial atom clusters in metals. Philosophical Magazine, 2007, 87, 3501-3517.	1.6	13
46	Strengthening and microstructure modification associated with moving twin boundaries in hcp metals. Philosophical Magazine Letters, 2007, 87, 451-459.	1.2	15
47	On the atomic structures, mobility and interactions of extended defects in GaN: dislocations, tilt and twin boundaries. Philosophical Magazine, 2006, 86, 2159-2192.	1.6	103
48	Accommodation of Grain Boundary Coherency Strain by Interfacial Disconnections. Microscopy and Microanalysis, 2006, 12, 888-889.	0.4	1
49	A study of the accommodation of coherency strain by interfacial defects at a grain boundary in gold. Philosophical Magazine, 2006, 86, 4667-4684.	1.6	19
50	Modelling the motion of twinning dislocations in the HCP metals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2005, 400-401, 496-498.	5.6	51
51	Atomic simulations and HRTEM observations of a Î£ 18 tilt grain boundary in GaN. Physica Status Solidi (A) Applications and Materials Science, 2005, 202, 799-803.	1.8	2
52	Junction lines of inversion domain boundaries with stacking faults in GaN. Physical Review B, 2004, 70, .	3.2	11
53	A model for simulating the motion of line defects in twin boundaries in HCP metals. International Journal of Materials Research, 2004, 95, 242-243.	0.8	12
54	Interactions between vacancy and glissile interstitial clusters in iron and copper. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 365, 101-106.	5.6	12

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55	On the atomic structure of periodic [0 0 0 1] tilt boundaries in GaN: dislocation mobility and boundary-dislocation interaction. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 365, 241-246.	5.6	3
56	Features of the interactions between a vacancy and interstitial loops in metals. Philosophical Magazine Letters, 2004, 84, 257-266.	1.2	11
57	Atomic structure and energy of junctions between inversion domain boundaries and stacking faults in wurtzite GaN. Physica Status Solidi C: Current Topics in Solid State Physics, 2003, 0, 2464-2469.	0.8	1
58	Point-defect clusters and dislocation loops in bcc metals: Continuum and atomistic study. Philosophical Magazine, 2003, 83, 857-871.	1.6	23
59	Atomic structures of twin boundaries in GaN. Physical Review B, 2003, 68, .	3.2	35
60	One-dimensional atomic transport by clusters of self-interstitial atoms in iron and copper. Philosophical Magazine, 2003, 83, 61-91.	1.6	214
61	Atomic structure of dislocation cores in GaN. Physical Review B, 2002, 65, .	3.2	147
62	Structure of [0001] tilt boundaries in GaN obtained by simulation with empirical potentials. Physical Review B, 2002, 66, .	3.2	38
63	A step associated with the Â Â 19 (2-530) tilt boundary in GaN. Journal of Physics Condensed Matter, 2002, 14, 12703-12708.	1.8	0
64	The atomic configurations of the aâ†' threading dislocation in GaN. Computational Materials Science, 2002, 24, 144-147.	3.0	15
65	Twins as barriers to basal slip in hexagonal-close-packed metals. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2002, 33, 809-812.	2.2	114
66	Twins as barriers to basal slip in hexagonal-close-packed metals. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2002, 33, 809-812.	2.2	36
67	Atomic Computer Simulation: Large Scale Calculations of Defect Properties by Empirical Potentials. Physica Status Solidi (B): Basic Research, 2001, 227, 151-175.	1.5	1
68	Atomic Structure of [0001] Tilt Boundaries in GaN. Journal of Materials Science, 2001, 9, 149-155.	1.2	13
69	Vacancy interaction with glissile interstitial clusters in bcc metals. Philosophical Magazine Letters, 2001, 81, 803-811.	1.2	30
70	Interactions between Edge Dislocations and Interstitial Clusters in Iron and Copper. Materials Research Society Symposia Proceedings, 2000, 653, .	0.1	4
71	Features of Vacancy Interaction with Interstitial Clusters in BCC Metals. Materials Research Society Symposia Proceedings, 2000, 653, .	0.1	1
72	Study of loopâ€"loop and loopâ€"edge dislocation interactions in bcc iron. Journal of Nuclear Materials, 2000, 283-287, 784-788.	2.7	33

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73	Stability and mobility of defect clusters and dislocation loops in metals. Journal of Nuclear Materials, 2000, 276, 65-77.	2.7	266
74	Interactions between mobile dislocation loops in Cu and Î±-Fe. Journal of Nuclear Materials, 2000, 276, 202-212.	2.7	61
75	On the validity of the cluster model to describe the evolution of Cu precipitates in Feâ€“Cu alloys. Journal of Nuclear Materials, 2000, 277, 113-115.	2.7	26
76	Interactions between Edge Dislocations and Interstitial Clusters in Iron and Copper. Materials Research Society Symposia Proceedings, 2000, 653, 1.	0.1	0
77	Structure and properties of clusters of self-interstitial atoms in fcc copper and bcc iron. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 2000, 80, 2131-2157.	0.6	95
78	Electron Microscopy Studies of Defects in Deformed Hexagonal Materials. , 2000, , 215-226.		0
79	Features of Vacancy Interaction with Interstitial Clusters in BCC Metals. Materials Research Society Symposia Proceedings, 2000, 653, 1.	0.1	0
80	Defect Structure and Processes in a 1-D Periodic Interface. Materials Science Forum, 1999, 294-296, 195-198.	0.3	0
81	Dislocations in interfaces in the h.c.p. metalsâ€”I. Defects formed by absorption of crystal dislocations. Acta Materialia, 1999, 47, 1425-1439.	7.9	115
82	Dislocations in interfaces in the h.c.p. metalsâ€”II. Mechanisms of defect mobility under stress. Acta Materialia, 1999, 47, 1441-1453.	7.9	87
83	Vacancy loops and stacking-fault tetrahedra in copper. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1999, 79, 2259-2283.	0.6	37
84	Vacancy loops and stacking-fault tetrahedra in copper. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1999, 79, 2285-2311.	0.6	28
85	Thermally activated glide of small dislocation loops in metals. Philosophical Magazine Letters, 1999, 79, 273-282.	1.2	77
86	The Structure of Defects Formed by Absorption of Crystal Dislocations in Interfaces in the HCP Metals. Materials Research Society Symposia Proceedings, 1999, 578, 371.	0.1	1
87	Nanocrystalline thin titanium films grown on potassium bromide single crystals. Thin Solid Films, 1998, 319, 140-143.	1.8	4
88	Computer-simulation study of high-temperature phase stability in iron. Physical Review B, 1998, 57, 755-763.	3.2	33
89	Structural Characteristics of Twin Boundaries in Deformed Polycrystalline Zirconium. Materials Science Forum, 1998, 294-296, 365-368.	0.3	2
90	Atomistic Simulation of Mobile Defect Clusters in Metals. Materials Research Society Symposia Proceedings, 1998, 540, 649.	0.1	2

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91	Mobility of Self-Interstitials in FCC and BCC Metals. Materials Research Society Symposia Proceedings, 1998, 527, 49.	0.1	11
92	Mobility of Self-Interstitial Clusters in FE and CU. Materials Research Society Symposia Proceedings, 1998, 527, 59.	0.1	36
93	Atomistic Simulation of Mobile Defect Clusters in Metals. Materials Research Society Symposia Proceedings, 1998, 538, 223.	0.1	1
94	Computer Simulation of the Diffusion in Binary Fe-Cu Alloys. Defect and Diffusion Forum, 1997, 143-147, 505-508.	0.4	6
95	Hrem Study of Ultra Thin Titanium Films. Materials Research Society Symposia Proceedings, 1997, 472, 391.	0.1	1
96	Vacancy and Interstitial Diffusion in bcc-Fe. Defect and Diffusion Forum, 1997, 143-147, 155-160.	0.4	13
97	Study of copper precipitates in Î±-iron by computer simulation. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1997, 75, 1097-1115.	0.6	37
98	Aspects of microstructure evolution under cascade damage conditions. Journal of Nuclear Materials, 1997, 251, 107-122.	2.7	142
99	Computer simulation of vacancy and interstitial clusters in bcc and fcc metals. Journal of Nuclear Materials, 1997, 251, 34-48.	2.7	66
100	A new model for {10<ovl>1</ovl>2} twin growth in hcp metals. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1996, 73, 333-343.	0.6	223
101	Study of copper precipitates in Î±-iron by computer simulation II. Interatomic potential for Fe[sbnd]Cu interactions and properties of coherent precipitates. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1996, 73, 249-263.	0.6	46
102	On the Generation of Twinning Dislocations in HCP Twin Boundaries. Materials Science Forum, 1996, 207-209, 553-556.	0.3	7
103	Experimental and Theoretical Investigation of Dislocations in {10Â¯12} Twins in Zinc. Materials Science Forum, 1996, 207-209, 113-116.	0.3	4
104	Computer Simulation Study of the Precipitate-Matrix Interface in an Fe-Cu System. Materials Science Forum, 1996, 207-209, 409-412.	0.3	0
105	High-resolution electron microscopy study of the (1012) twin and defects analysis in deformed polycrystalline alpha titanium. Philosophical Magazine Letters, 1996, 74, 331-338.	1.2	42
106	The evolution of copper precipitates in binary Feî—¸Cu alloys during ageing and irradiation. Journal of Nuclear Materials, 1995, 226, 252-255.	2.7	33
107	Interfacial structure of {10<ovl>1</ovl>1} twins and twinning dislocations in titanium. Philosophical Magazine Letters, 1995, 71, 275-284.	1.2	41
108	Computer simulation of screw dislocation interactions with twin boundaries in H.C.P. metals. Acta Metallurgica Et Materialia, 1995, 43, 4465-4481.	1.8	122

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109	Study of copper precipitates in Î±â€iron by computer simulation I. Interatomic potentials and properties of Fe and Cu. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1995, 72, 361-381.	0.6	65
110	Computer simulation study of copper precipitates in Î±-iron. Journal of Nuclear Materials, 1994, 212-215, 236-240.	2.7	12
111	Computer Simulation of Twinning Dislocations in Zirconium and Other H.C.P. Metals. Materials Science Forum, 1993, 126-128, 69-72.	0.3	23
112	Computer simulation of the structure and mobility of twinning disclocations in H.C.P. Metals. Acta Metallurgica Et Materialia, 1991, 39, 1469-1480.	1.8	224
113	Computer simulation of twinning dislocation in magnesium using a many-body potential. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1991, 63, 1001-1012.	0.6	76
114	The Properties of Twinning Dislocations in Alpha-Titanium Simulated With A Many-Body Interatomic Potential. Materials Research Society Symposia Proceedings, 1991, 238, 73.	0.1	4
115	The crystallography and atomic structure of line defects in twin boundaries in hexagonal-close-packed metals. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1991, 22, 1185-1196.	1.4	44
116	The crystallography and core structure of twinning dislocations in H.C.P. metals. Acta Metallurgica, 1988, 36, 3183-3203.	2.1	173
117	Characterization of defects in deformed titanium. Physica Status Solidi A, 1988, 110, 409-414.	1.7	8
118	Transformation matrices for hexagonal and trigonal crystals. Scripta Metallurgica, 1987, 21, 197-202.	1.2	23
119	Computer simulation of twin boundaries in the h.c.p. metals. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1986, 54, 793-804.	0.6	82