

# 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	Stability and mobility of defect clusters and dislocation loops in metals. Journal of Nuclear Materials, 2000, 276, 65-77.	2.7	266
2	Computer simulation of the structure and mobility of twinning dislocations in H.C.P. Metals. Acta Metallurgica Et Materialia, 1991, 39, 1469-1480.	1.8	224
3	A new model for $\{10\bar{1}1\}$ twin growth in hcp metals. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1996, 73, 333-343.	0.6	223
4	Comparison of empirical interatomic potentials for iron applied to radiation damage studies. Journal of Nuclear Materials, 2010, 406, 19-38.	2.7	217
5	One-dimensional atomic transport by clusters of self-interstitial atoms in iron and copper. Philosophical Magazine, 2003, 83, 61-91.	1.6	214
6	The crystallography and core structure of twinning dislocations in H.C.P. metals. Acta Metallurgica, 1988, 36, 3183-3203.	2.1	173
7	Atomic structure of dislocation cores in GaN. Physical Review B, 2002, 65, .	3.2	147
8	Aspects of microstructure evolution under cascade damage conditions. Journal of Nuclear Materials, 1997, 251, 107-122.	2.7	142
9	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
10	Dislocations in interfaces in the h.c.p. metals. I. Defects formed by absorption of crystal dislocations. Acta Materialia, 1999, 47, 1425-1439.	7.9	115
11	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
12	The disconnection mechanism of coupled migration and shear at grain boundaries. Acta Materialia, 2012, 60, 2007-2020.	7.9	108
13	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
14	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
15	Dislocations in interfaces in the h.c.p. metals. II. Mechanisms of defect mobility under stress. Acta Materialia, 1999, 47, 1441-1453.	7.9	87
16	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
17	Thermally activated glide of small dislocation loops in metals. Philosophical Magazine Letters, 1999, 79, 273-282.	1.2	77
18	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

#	ARTICLE	IF	CITATIONS
19	Atomic shearing and shuffling accompanying the motion of twinning disconnections in Zirconium. Philosophical Magazine, 2013, 93, 1279-1298.	1.6	76
20	Computer simulation of vacancy and interstitial clusters in bcc and fcc metals. Journal of Nuclear Materials, 1997, 251, 34-48.	2.7	66
21	Characterization of the matrix-twin interface of a (101 <sub>1</sub> ,2) twin during growth. Philosophical Magazine, 2014, 94, 2827-2839.	1.6	66
22	Study of copper precipitates in $\hat{\epsilon}$ -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
23	Interactions between mobile dislocation loops in Cu and $\hat{\epsilon}$ -Fe. Journal of Nuclear Materials, 2000, 276, 202-212.	2.7	61
24	Atomic displacements accompanying deformation twinning: shears and shuffles. Materials Research Letters, 2016, 4, 185-190.	8.7	58
25	Structure and strength of $\hat{\epsilon}$ 110% tilt grain boundaries in bcc Fe: An atomistic study. Computational Materials Science, 2010, 49, 419-429.	3.0	55
26	Interaction of carbon with vacancy and self-interstitial atom clusters in $\hat{\epsilon}$ -iron studied using metallic-covalent interatomic potential. Journal of Nuclear Materials, 2011, 408, 272-284.	2.7	55
27	Comment on "Atomic Shuffling Dominated Mechanism For Deformation Twinning In Magnesium". Physical Review Letters, 2010, 104, 029603; author reply 029604.	7.8	54
28	Atomistic study of multimechanism diffusion by self-interstitial defects in $\hat{\epsilon}$ -Fe. Modelling and Simulation in Materials Science and Engineering, 2010, 18, 025008.	2.0	52
29	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
30	Study of copper precipitates in $\hat{\epsilon}$ -iron by computer simulation II. Interatomic potential for Fe-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
31	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
32	Slip dislocation and twin nucleation mechanisms in hcp metals. Journal of Materials Science, 2017, 52, 533-540.	3.7	43
33	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
34	Interfacial structure of {1011} twins and twinning dislocations in titanium. Philosophical Magazine Letters, 1995, 71, 275-284.	1.2	41
35	Structure of [0001] tilt boundaries in GaN obtained by simulation with empirical potentials. Physical Review B, 2002, 66, .	3.2	38
36	Study of copper precipitates in $\hat{\epsilon}$ -iron by computer simulation. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1997, 75, 1097-1115.	0.6	37

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37	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
38	Interaction of a moving { } twin boundary with perfect dislocations and loops in a hcp metal. Philosophical Magazine, 2010, 90, 845-861.	1.6	37
39	Carbonâ€vacancy complexes as traps for self-interstitial clusters in Feâ€C alloys. Journal of Nuclear Materials, 2013, 440, 236-242.	2.7	37
40	Mobility of Self-Interstitial Clusters in FE and CU. Materials Research Society Symposia Proceedings, 1998, 527, 59.	0.1	36
41	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
42	Atomic structures of twin boundaries in GaN. Physical Review B, 2003, 68, .	3.2	35
43	Effect of nickel on point defects diffusion in Fe â€ Ni alloys. Acta Materialia, 2017, 132, 367-373.	7.9	35
44	The evolution of copper precipitates in binary Feâ€Cu alloys during ageing and irradiation. Journal of Nuclear Materials, 1995, 226, 252-255.	2.7	33
45	Computer-simulation study of high-temperature phase stability in iron. Physical Review B, 1998, 57, 755-763.	3.2	33
46	Study of loopâ€loop and loopâ€edge dislocation interactions in bcc iron. Journal of Nuclear Materials, 2000, 283-287, 784-788.	2.7	33
47	Vacancy interaction with glissile interstitial clusters in bcc metals. Philosophical Magazine Letters, 2001, 81, 803-811.	1.2	30
48	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
49	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
50	Dislocation glide in Feâ€carbon solid solution: From atomistic to continuum level description. International Journal of Plasticity, 2014, 62, 34-49.	8.8	26
51	Review of Non-Classical Features of Deformation Twinning in hcp Metals and Their Description by Disconnection Mechanisms. Metals, 2020, 10, 1134.	2.3	26
52	Transformation matrices for hexagonal and trigonal crystals. Scripta Metallurgica, 1987, 21, 197-202.	1.2	23
53	Computer Simulation of Twinning Dislocations in Zirconium and Other H.C.P. Metals. Materials Science Forum, 1993, 126-128, 69-72.	0.3	23
54	Point-defect clusters and dislocation loops in bcc metals: Continuum and atomistic study. Philosophical Magazine, 2003, 83, 857-871.	1.6	23

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55	On the structure and mobility of point defect clusters in alpha-zirconium: a comparison for two interatomic potential models. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2011, 19, 035003.	2.0	22
56	On the relationship between and conjugate twins and double extension twins in rolled pure Mg. <i>Philosophical Magazine</i> , 2017, 97, 1088-1101.	1.6	22
57	Grain boundary mediated plasticity: The role of grain boundary atomic structure and thermal activation. <i>Scripta Materialia</i> , 2018, 145, 1-4.	5.2	21
58	The role of nickel in radiation damage of ferritic alloys. <i>Acta Materialia</i> , 2015, 84, 368-374.	7.9	20
59	A study of the accommodation of coherency strain by interfacial defects at a grain boundary in gold. <i>Philosophical Magazine</i> , 2006, 86, 4667-4684.	1.6	19
60	Atomic processes of shear-coupled migration in {112} twins and vicinal grain boundaries in bcc-Fe. <i>Physical Review Materials</i> , 2020, 4, .	2.4	17
61	Interaction of $\sim 100\%$ loops with Carbon atoms and $\sim 100\%$ dislocations in BCC Fe: An atomistic study. <i>Journal of Nuclear Materials</i> , 2012, 420, 9-15.	2.7	16
62	Non-diffusional growth mechanism of I1 basal stacking-faults inside twins in hcp metals. <i>Scripta Materialia</i> , 2019, 172, 149-153.	5.2	16
63	The atomic configurations of the $\alpha'$ threading dislocation in GaN. <i>Computational Materials Science</i> , 2002, 24, 144-147.	3.0	15
64	Strengthening and microstructure modification associated with moving twin boundaries in hcp metals. <i>Philosophical Magazine Letters</i> , 2007, 87, 451-459.	1.2	15
65	Interaction of a mobile $\{1\bar{1}\bar{2}\}$ grain boundary with radiation induced defects in $\hat{\Gamma}$ -Fe: Transformation of defects and impact on the shear-coupled grain boundary migration. <i>Computational Materials Science</i> , 2020, 179, 109679.	3.0	15
66	Disconnection arrays in a rhombohedral twin in $\hat{\Gamma}$ -alumina. <i>Philosophical Magazine</i> , 2008, 88, 1569-1579.	1.6	14
67	Interaction of He and He $\hat{=}$ V clusters with self-interstitials and dislocations defects in bcc Fe. <i>Journal of Nuclear Materials</i> , 2015, 458, 11-21.	2.7	14
68	Vacancy and Interstitial Diffusion in bcc-Fe. <i>Defect and Diffusion Forum</i> , 1997, 143-147, 155-160.	0.4	13
69	Atomic Structure of [0001] Tilt Boundaries in GaN. <i>Journal of Materials Science</i> , 2001, 9, 149-155.	1.2	13
70	On the interaction between a vacancy and self-interstitial atom clusters in metals. <i>Philosophical Magazine</i> , 2007, 87, 3501-3517.	1.6	13
71	Atomic-level computer simulation of the interaction between $\frac{1}{3}\langle 1,1,\bar{2}\rangle$ dislocations and $\frac{1}{3}\langle 1,1,\bar{2}\rangle$ interstitial loops in $\alpha$ -zirconium. <i>Modelling and Simulation in Materials Science and Engineering</i> , 2013, 21, 045007.	2.0	13
72	Computer simulation study of copper precipitates in $\hat{\Gamma}$ -iron. <i>Journal of Nuclear Materials</i> , 1994, 212-215, 236-240.	2.7	12

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73	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
74	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
75	Multiscale modelling for fusion and fission materials: The M4F project. Nuclear Materials and Energy, 2021, 29, 101051.	1.3	12
76	Mobility of Self-Interstitials in FCC and BCC Metals. Materials Research Society Symposia Proceedings, 1998, 527, 49.	0.1	11
77	Junction lines of inversion domain boundaries with stacking faults in GaN. Physical Review B, 2004, 70, .	3.2	11
78	Features of the interactions between a vacancy and interstitial loops in metals. Philosophical Magazine Letters, 2004, 84, 257-266.	1.2	11
79	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
80	Characterization of defects in deformed titanium. Physica Status Solidi A, 1988, 110, 409-414.	1.7	8
81	On the migration of $\{3\bar{1}1\}$ tilt grain boundary in bcc metals and further nucleation of $\{1\bar{1}2\}$ twin. Computational Materials Science, 2021, 196, 110509.	3.0	8
82	Unravelling the nucleation and growth of $\langle mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si12.svg" \rangle$ $\langle mml:mrow \rangle$ $\langle mml:mo \rangle$ $\langle mml:mn \rangle 11 \langle mml:mn \rangle$ $\langle mml:mtext \rangle$ $\langle mml:mover \rangle$ $\langle mml:mn \rangle 2 \langle mml:mn \rangle$ $\langle mml:mo \rangle \hat{\cdot} \langle mml:mo \rangle$ $\langle mml:mover \rangle$ $\langle mml:mn \rangle 2 \langle mml:mn \rangle$ $\langle mml:mo \rangle$ $\langle mml:mo \rangle$ $\langle mml:mrow \rangle$ twins. Scripta Materialia, 2022, 215, 114730.	5.2	8
83	On the Generation of Twinning Dislocations in HCP Twin Boundaries. Materials Science Forum, 1996, 207-209, 553-556.	0.3	7
84	Interaction of a single interstitial atom with small clusters of self interstitials in $\hat{1}\pm$ -Fe. Journal of Nuclear Materials, 2008, 372, 239-248.	2.7	7
85	Physical mechanisms and parameters for models of microstructure evolution under irradiation in Fe alloys $\hat{\cdot}$ Part I: Pure Fe. Nuclear Materials and Energy, 2021, 29, 101069.	1.3	7
86	Computer Simulation of the Diffusion in Binary Fe-Cu Alloys. Defect and Diffusion Forum, 1997, 143-147, 505-508.	0.4	6
87	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
88	$\{111\}$ tilt grain boundaries as barriers for slip transfer in bcc Fe. Computational Materials Science, 2022, 203, 111044.	3.0	6
89	A comment on B. Li, H. El Kadiri and M.F. Horstemeyer $\hat{\cdot}$ Extended zonal dislocations mediating twinning in titanium $\hat{\cdot}$ . Philosophical Magazine, 2013, 93, 3495-3503.	1.6	5
90	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



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109	Accommodation of Grain Boundary Coherency Strain by Interfacial Disconnections. Microscopy and Microanalysis, 2006, 12, 888-889.	0.4	1
110	Disconnection Motion in Low- and High-Angle Symmetrical Tilt Grain Boundaries in HCP Metal. Materials Science Forum, 2013, 753, 125-130.	0.3	1
111	Computer Simulation Study of the Precipitate-Matrix Interface in an Fe-Cu System. Materials Science Forum, 1996, 207-209, 409-412.	0.3	0
112	Defect Structure and Processes in a 1-D Periodic Interface. Materials Science Forum, 1999, 294-296, 195-198.	0.3	0
113	Interactions between Edge Dislocations and Interstitial Clusters in Iron and Copper. Materials Research Society Symposia Proceedings, 2000, 653, 1.	0.1	0
114	A step associated with the $\hat{\Lambda} \hat{\Lambda} 19$ (2-530) tilt boundary in GaN. Journal of Physics Condensed Matter, 2002, 14, 12703-12708.	1.8	0
115	Elasticity to atomistics: Predictive modeling of defect behavior. Philosophical Magazine, 2010, 90, 803-804.	1.6	0
116	Rejoinder to the response by B. Li on our Comment on the paper B. Li, H. El Kadiri and M.F. Horstemeyer $\hat{\Lambda}$ Extended zonal dislocations mediating twinning in titanium $\hat{\Lambda}$ ™. Philosophical Magazine, 2013, 93, 3511-3514.	1.6	0
117	Electron Microscopy Studies of Defects in Deformed Hexagonal Materials. , 2000, , 215-226.		0
118	Features of Vacancy Interaction with Interstitial Clusters in BCC Metals. Materials Research Society Symposia Proceedings, 2000, 653, 1.	0.1	0
119	Disconnection-mediated motion of $\hat{\Lambda}$ tilt grain boundaries in $\hat{\Lambda}$ -Fe. Physical Review Materials, 2022, 6, .	2.4	0