Maria Jesus Santofimia

List of Publications by Year
in descending order

69 papers	4,546 citations	76326 40 h-index	118850 62 g-index
70 all docs	70 docs citations	70 times ranked	1698 citing authors

#	Article	IF	Citations
1	Microstructural development during the quenching and partitioning process in a newly designed low-carbon steel. Acta Materialia, 2011, 59, 6059-6068.	7.9	269
2	An improved X-ray diffraction analysis method to characterize dislocation density in lath martensitic structures. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 639, 208-218.	5.6	217
3	Microstructural Evolution of a Low-Carbon Steel during Application of Quenching and Partitioning Heat Treatments after Partial Austenitization. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2009, 40, 46-57.	2.2	166
4	Interaction of carbon partitioning, carbide precipitation and bainite formation during the Q&P process in a low C steel. Acta Materialia, 2016, 104, 72-83.	7.9	166
5	Theoretical design and advanced microstructure in super high strength steels. Materials & Design, 2009, 30, 2077-2083.	5.1	164
6	Effect of Prior Austenite Grain Size Refinement by Thermal Cycling on the Microstructural Features of As-Quenched Lath Martensite. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 5288-5301.	2.2	159
7	New low carbon Q&P steels containing film-like intercritical ferrite. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 6429-6439.	5.6	154
8	Influence of carbon partitioning kinetics on final austenite fraction during quenching and partitioning. Scripta Materialia, 2009, 61, 149-152.	5.2	150
9	Thermal and mechanical stability of retained austenite surrounded by martensite with different degrees of tempering. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 690, 337-347.	5.6	145
10	The role of the austenite grain size in the martensitic transformation in low carbon steels. Materials and Design, 2019, 167, 107625.	7.0	141
11	Characterization of the microstructure obtained by the quenching and partitioning process in a low-carbon steel. Materials Characterization, 2008, 59, 1758-1764.	4.4	139
12	New experimental evidence on the incomplete transformation phenomenon in steel. Acta Materialia, 2009, 57, 8-17.	7.9	139
13	Microstructure, tensile and toughness properties after quenching and partitioning treatments of a medium-carbon steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 559, 486-495.	5.6	139
14	Influence of interface mobility on the evolution of austeniteâ€“martensite grain assemblies during annealing. Acta Materialia, 2009, 57, 4548-4557.	7.9	134
15	Experimental evidence for bainite formation below Ms in Feâ€“0.66C. Scripta Materialia, 2008, 58, 488-491.	5.2	121
16	Characterization of bainitic/martensitic structures formed in isothermal treatments below the M s temperature. Materials Characterization, 2017, 128, 248-256.	4.4	108
17	Effect of Prior Athermal Martensite on the Isothermal Transformation Kinetics Below M s in a Low-C High-Si Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 1028-1039.	2.2	98
18	Overview of Mechanisms Involved During the Quenching and Partitioning Process in Steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 3620-3626.	2.2	96

#	Article	IF	Citations
19	Microstructural analysis of martensite constituents in quenching and partitioning steels. Materials Characterization, 2014, 92, 91-95.	4.4	94
20	Model for the interaction between interface migration and carbon diffusion during annealing of martensiteâ€“austenite microstructures in steels. Scripta Materialia, 2008, 59, 159-162.	5.2	93
21	Effects of Morphology and Stability of Retained Austenite on the Ductility of TRIP-aided Bainitic Steels. ISIJ International, 2008, 48, 1256-1262.	1.4	90
22	Design of Advanced Bainitic Steels by Optimisation of TTT Diagrams and T0 Curves. ISIJ International, 2006, 46, 1479-1488.	1.4	89
23	Toughness deterioration in advanced high strength bainitic steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2009, 525, 87-95.	5.6	87
24	Exploring bainite formation kinetics distinguishing grain-boundary and autocatalytic nucleation in high and low-Si steels. Acta Materialia, 2016, 105, 155-164.	7.9	86
25	Temperature dependence of carbon supersaturation of ferrite in bainitic steels. Scripta Materialia, 2012, 67, 846-849.	5.2	83
26	Controlling the work hardening of martensite to increase the strength/ductility balance in quenched and partitioned steels. Materials and Design, 2017, 117, 248-256.	7.0	64
27	Bainite formation kinetics in steels and the dynamic nature of the autocatalytic nucleation process. Scripta Materialia, 2017, 140, 82-86.	5.2	62
28	Analysis of the mechanical behavior of a 0.3C-1.6Si-3.5Mn(wt%) quenching and partitioning steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 677, 505-514.	5.6	59
29	Influence of bainite reaction on the kinetics of carbon redistribution during the Quenching and Partitioning process. Acta Materialia, 2018, 142, 142-151.	7.9	56
30	The role of silicon in carbon partitioning processes in martensite/austenite microstructures. Materials and Design, 2017, 127, 336-345.	7.0	54
31	Deformation behavior of a high strength multiphase steel at macro- and micro-scales. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 611, 201-211.	5.6	53
32	Impact of austenite grain boundaries and ferrite nucleation on bainite formation in steels. Acta Materialia, 2020, 188, 424-434.	7.9	53
33	In situ austeniteâ€“martensite interface mobility study during annealing. Acta Materialia, 2015, 90, 161-168.	7.9	52
34	Phase field simulation of the carbon redistribution during the quenching and partitioning process in a low-carbon steel. Acta Materialia, 2012, 60, 2916-2926.	7.9	51
35	Effect of pre-existing defects in the parent fcc phase on atomistic mechanisms during the martensitic transformation in pure Fe: A molecular dynamics study. Acta Materialia, 2018, 142, 71-81.	7.9	49
36	The influence of the austenite grain size on the microstructural development during quenching and partitioning processing of a low-carbon steel. Materials and Design, 2019, 178, 107847.	7.0	48

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37	Fracture mechanisms and microstructure in a medium Mn quenching and partitioning steel exhibiting macrosegregation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 754, 766-777.	5.6	48
38	Volume Change Associated to Carbon Partitioning from Martensite to Austenite. Materials Science Forum, 0, 706-709, 2290-2295.	0.3	45
39	Influence of martensite/austenite interfaces on bainite formation in low-alloy steels below M. Acta Materialia, 2020, 188, 394-405.	7.9	45
40	Evaluation of Displacive Models for Bainite Transformation Kinetics in Steels. Materials Transactions, 2006, 47, 1492-1500.	1.2	43
41	A quantitative investigation of the effect of Mn segregation on microstructural properties of quenching and partitioning steels. Scripta Materialia, 2017, 137, 27-30.	5.2	40
42	Microstructure evolution during high-temperature partitioning of a medium-Mn quenching and partitioning steel. Materialia, 2019, 8, 100492.	2.7	40
43	Phase field modelling of microstructural evolution during the quenching and partitioning treatment in low-alloy steels. Computational Materials Science, 2016, 112, 245-256.	3.0	38
44	New Model for the Overall Transformation Kinetics of Bainite. Part 1: the Model. Materials Transactions, 2006, 47, 2465-2472.	1.2	32
45	Experimental study of the distribution of alloying elements after the formation of epitaxial ferrite upon cooling in a low-carbon steel. Materials Characterization, 2010, 61, 937-942.	4.4	28
46	Influence of the prior athermal martensite on the mechanical response of advanced bainitic steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 735, 343-353.	5.6	26
47	Time-Temperature-Transformation Diagram within the Bainitic Temperature Range in a Medium Carbon Steel. Materials Transactions, 2004, 45, 3272-3281.	1.2	23
48	Elastic Strain Measurement of Miniature Tensile Specimens. Experimental Mechanics, 2014, 54, 165-173.	2.0	22
49	Molecular dynamics simulations of the mechanisms controlling the propagation of bcc/fcc semi-coherent interfaces in iron. Modelling and Simulation in Materials Science and Engineering, 2016, 24, 055019.	2.0	21
50	Effect of C on the Martensitic Transformation in Fe-C Alloys in the Presence of Pre-Existing Defects: A Molecular Dynamics Study. Crystals, 2019, 9, 99.	2.2	19
51	The role of grain-boundary cementite in bainite formation in high-carbon steels. Scripta Materialia, 2020, 185, 7-11.	5.2	17
52	Unravelling the mechanical behaviour of advanced multiphase steels isothermally obtained below M. Materials and Design, 2020, 188, 108484.	7.0	16
53	Interplay between metastable phases controls strength and ductility in steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 745, 185-194.	5.6	15
54	New Model for the Overall Transformation Kinetics of Bainite. Part 2: Validation. Materials Transactions, 2006, 47, 2473-2479.	1.2	12

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55	Thermodynamic aspects of carbon redistribution during ageing and tempering of Feâ€“Niâ€“C alloys. Philosophical Magazine, 2016, 96, 2632-2648.	1.6	12
56	Optimizing Mechanical Properties of a 0.3C-1.5Si-3.5MnQuenched and Partitioned Steel. Advanced Materials Research, 0, 829, 100-104.	0.3	11
57	Austenite Reverse Transformation in a Q&P Route of Mn and Ni Added Steels. Metals, 2020, 10, 862.	2.3	11
58	Toughness of Advanced High Strength Bainitic Steels. Materials Science Forum, 0, 638-642, 118-123.	0.3	10
59	Microstructural Impact of Si and Ni During High Temperature Quenching and Partitioning Process in Medium-Mn Steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2021, 52, 1321-1335.	2.2	8
60	Analysis of work hardening mechanisms in Quenching and Partitioning steels combining experiments with a 3D micro-mechanical model. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 846, 143301.	5.6	8
61	The Complexity of the Microstructural Changes during the Partitioning Step of the Quenching and Partitioning Process in Low Carbon Steels. Materials Science Forum, 2010, 638-642, 3485-3490.	0.3	6
62	Coalescence of martensite under uniaxial tension of iron crystallites by atomistic simulations. Materials Science and Technology, 2020, 36, 1191-1199.	1.6	6
63	Influence of the Partitioning Treatment on the Mechanical Properties of a 0.3C-1.5Si-3.5Mn Q&P Steel. Advanced Materials Research, 0, 922, 224-229.	0.3	5
64	Theoretical Aspects of Spinodal Decomposition in Fe-C. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 1175-1184.	2.2	5
65	Microstructure and Properties of Ultrafast Annealed High Strength Steel. Materials Science Forum, 2013, 753, 554-558.	0.3	3
66	Advanced High-Strength Steels by Quenching and Partitioning. Metals, 2021, 11, 1419.	2.3	2
67	The Influence of Titanium and Vanadium on Isothermal Growth Kinetics of Allotriomorphic Ferrite in Medium Carbon Microalloyed Steels. Materials Transactions, 2003, 44, 220-225.	1.2	1
68	Model for the Annealing of Partial Martensite-Austenite Microstructures in Steels. Solid State Phenomena, 0, 172-174, 567-572.	0.3	0
69	Cellular Automata Modeling of Plastic Deformation in Ferrite During Martensite Formation in Dual-Phase Steels. , 2019, , .		0