Dong-Woo Suh

List of Publications by Year
in descending order

112	4,391	117571	118793
papers	citations	34 h-index	62 g-index

113	113	113	2496
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Feâ€“Alâ€“Mnâ€“C lightweight structural alloys: a review on the microstructures and mechanical properties. Science and Technology of Advanced Materials, 2013, 14, 014205.	2.8	342
2	Stability of (Ti, M)C (M = Nb, V, Mo and W) carbide in steels using first-principles calculations. Acta Materialia, 2012, 60, 208-217.	3.8	301
3	Medium Mn transformation-induced plasticity steels: Recent progress and challenges. Scripta Materialia, 2017, 126, 63-67.	2.6	257
4	Influence of Al on the Microstructural Evolution and Mechanical Behavior of Low-Carbon, Manganese Transformation-Induced-Plasticity Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2010, 41, 397-408.	1.1	235
5	Strain partitioning and mechanical stability of retained austenite. Scripta Materialia, 2010, 63, 297-299.	2.6	180
6	Effect of deformation on hydrogen trapping and effusion in TRIP-assisted steel. Acta Materialia, 2012, 60, 4085-4092.	3.8	126
7	Austenite stability and heterogeneous deformation in fine-grained transformation-induced plasticity-assisted steel. Scripta Materialia, 2013, 68, 933-936.	2.6	91
8	Influence of partial replacement of Si by Al on the change of phase fraction during heat treatment of TRIP steels. Scripta Materialia, 2007, 57, 1097-1100.	2.6	86
9	Austenitizing temperature and hardenability of low-carbon boron steels. Scripta Materialia, 2011, 64, 1118-1120.	2.6	86
10	Solubility of carbon in tetragonal ferrite in equilibrium with austenite. Scripta Materialia, 2013, 68, 195-198.	2.6	81
11	Interphase precipitation in Tiâ€“Nb and Tiâ€“Nbâ€“Mo bearing steel. Materials Science and Technology, 2013, 29, 309-313.	0.8	81
12	Atomistic investigations of Î¹-carbide precipitation in austenitic Fe-Mn-Al-C lightweight steels and the effect of Mo addition. Scripta Materialia, 2017, 127, 97-101.	2.6	80
13	Theory for hydrogen desorption in ferritic steel. Computational Materials Science, 2013, 79, 36-44.	1.4	76
14	Effects of annealing conditions on microstructure and mechanical properties of low carbon, manganese transformation-induced plasticity steel. Metals and Materials International, 2009, 15, 909-916.	1.8	71
15	Effect of aluminium on hydrogen-induced fracture behaviour in austenitic Feâ€“Mnâ€“C steel. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2013, 469, 20120458.	1.0	66
16	Mechanical Anisotropy in Steels for Pipelines. ISIJ International, 2013, 53, 1305-1314.	0.6	66
17	A model for transformation plasticity during bainite transformation of steel under external stress. Acta Materialia, 2003, 51, 4907-4917.	3.8	65
18	Effects of Mn, Si and Cr addition on the dissolution and coarsening of pearlitic cementite during intercritical austenitization in Fe-1mass%C alloy. Materials Characterization, 2013, 81, 56-67.	1.9	62

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19	Method for measuring nanoscale local strain in a dual phase steel using digital image correlation with nanodot patterns. Scripta Materialia, 2013, 68, 245-248.	2.6	61
20	Experiments to separate the effect of texture on anisotropy of pipeline steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 556, 601-606.	2.6	60
21	Dilatometric analysis of austenite decomposition considering the effect of non-isotropic volume change. Acta Materialia, 2007, 55, 2659-2669.	3.8	57
22	Critical assessment: Martensite-start temperature for the <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si20.gif" display="inline" overflow="scroll"><mml:mi>Î³</mml:mi><mml:mo>â†’</mml:mo><mml:mi>Îµ</mml:mi></mml:math> transformation. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2012, 36, 16-22.	0.7	55
23	Thermo-mechanical-metallurgical modeling for hot-press forming in consideration of the prior austenite deformation effect. International Journal of Plasticity, 2014, 58, 154-183.	4.1	54
24	Influence of Silicon in Low Density Fe-C-Mn-Al Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2012, 43, 1731-1735.	1.1	53
25	Dilatometric analysis of cementite dissolution in hypereutectoid steels containing Cr. Scripta Materialia, 2011, 65, 245-248.	2.6	49
26	Microstructural evolution of Alâ€“Znâ€“Mgâ€“Cuâ€“(Sc) alloy during hot extrusion and heat treatments. Journal of Materials Processing Technology, 2004, 155-156, 1330-1336.	3.1	48
27	Effect of hydrogen on the surface energy of ferrite and austenite. Corrosion Science, 2013, 77, 379-384.	3.0	46
28	A new class of lightweight, stainless steels with ultra-high strength and large ductility. Scientific Reports, 2020, 10, 12140.	1.6	46
29	Stability of stainless-steel nanoparticle and water mixtures. Powder Technology, 2015, 272, 34-44.	2.1	41
30	Effects of phosphorous addition on mechanical properties and retained austenite stability of 0.15Câ˜1.5Mnâ˜1.5Al TRIP-aided cold rolled steels. Metals and Materials International, 2007, 13, 13-19.	1.8	40
31	Non-isothermal kinetics model to predict accurate phase transformation and hardness of 22MnB5 boron steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 626, 67-73.	2.6	40
32	A microstructure-based analysis for transformation induced plasticity and mechanically induced martensitic transformation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 485, 224-233.	2.6	39
33	Hydrogen and aluminium in high-manganese twinning-induced plasticity steel. Scripta Materialia, 2014, 80, 9-12.	2.6	38
34	Precipitation sequence and its effect on age hardening of alumina-forming austenitic stainless steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 645, 72-81.	2.6	38
35	Austenite morphology and resistance to hydrogen embrittlement in medium Mn transformation-induced plasticity steel. Scripta Materialia, 2019, 169, 52-56.	2.6	35
36	Variant Selection in Mechanically-induced Martensitic Transformation of Metastable Austenitic Steel. ISIJ International, 2005, 45, 1217-1219.	0.6	34

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37	Spot weldability of TRIP assisted steels with high carbon and aluminium contents. Science and Technology of Welding and Joining, 2012, 17, 92-98.	1.5	33
38	Interaction of aluminium with hydrogen in twinning-induced plasticity steel. Scripta Materialia, 2014, 87, 9-12.	2.6	33
39	Variant selection during mechanically induced martensitic transformation of metastable austenite by nanoindentation. Scripta Materialia, 2015, 104, 13-16.	2.6	32
40	Evaluation of the deviation angle of ferrite from the Kudjumovâ€“Sachs relationship in a low carbon steel by EBSD. Scripta Materialia, 2002, 46, 375-378.	2.6	31
41	Effects of pre-treatment conditions on warm hydroformability of 7075 aluminum tubes. Journal of Materials Processing Technology, 2004, 155-156, 1337-1343.	3.1	31
42	Estimation of phase fraction in dual phase steel using microscopic characterizations and dilatometric analysis. Materials Characterization, 2013, 84, 205-215.	1.9	30
43	Fabrication of an ultrafine-grained structure by a compositional pinning technique. Acta Materialia, 2014, 77, 236-247.	3.8	26
44	Pearlite growth rate in Feâ€“C and Feâ€“Mnâ€“C steels. Materials Science and Technology, 2015, 31, 487-493.	0.8	26
45	Electrochemical hydrogen permeation measurement through TRIP steel under loading condition of phase transition. Electrochemistry Communications, 2012, 24, 112-115.	2.3	24
46	Microstructure and tensile properties of chemically heterogeneous steel consisting of martensite and austenite. Acta Materialia, 2022, 223, 117506.	3.8	24
47	Dilatometric Analysis of Austenite Formation during Intercritical Annealing. Metals and Materials International, 2008, 14, 275-282.	1.8	23
48	More Complete Theory for the Calculation of the Martensiteâ€“Start Temperature in Steels. ISIJ International, 2012, 52, 164-166.	0.6	22
49	Modelling coarsening behaviour of TiC precipitates in high strength, low alloy steels. Materials Science and Technology, 2013, 29, 1074-1079.	0.8	22
50	Austenite in Transformation-Induced Plasticity Steel Subjected to Multiple Isothermal Heat Treatments. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 4201-4209.	1.1	22
51	Dynamic Restoration Process of Ni-30Fe Alloy during Hot Deformation.. ISIJ International, 2002, 42, 432-439.	0.6	21
52	Oxidation of silicon containing steel. Ironmaking and Steelmaking, 2012, 39, 599-604.	1.1	21
53	Dissolution Behaviour of NbC during Slab Reheating. ISIJ International, 2014, 54, 1677-1681.	0.6	21
54	Dilatometric Analysis of Phase Fraction during Austenite Decomposition into Banded Microstructure in Low-Carbon Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2007, 38, 2963-2973.	1.1	20

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55	Microstructure and Mechanical Behaviors of 0.1C-13Mn Metastable Austenitic Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2009, 40, 264-268.	1.1	20
56	Screw dislocation driven martensitic nucleation: A step toward consilience of deformation scenario in fcc materials. Acta Materialia, 2019, 174, 342-350.	3.8	20
57	FEM Modeling of Flow Curves for Ferrite/Pearlite Two-Phase Steels.. ISIJ International, 2001, 41, 782-787.	0.6	19
58	Orientation Distribution of Proeutectoid Ferrite Nucleated at Prior Austenite Grain Boundaries in Vanadium-added Steel.. ISIJ International, 2002, 42, 1321-1323.	0.6	19
59	Is low phosphorus content in steel a product requirement?. Ironmaking and Steelmaking, 2015, 42, 259-267.	1.1	19
60	Stress development and shape change during press-hardening process using phase-transformation-based finite element analysis. International Journal of Plasticity, 2015, 73, 142-170.	4.1	19
61	Analysis of Transformation Plasticity in Steel Using a Finite Element Method Coupled with a Phase Field Model. PLoS ONE, 2012, 7, e35987.	1.1	18
62	Diffusion-controlled recrystallization and grain growth-induced plasticity of steel under externally applied stress. Philosophical Magazine, 2008, 88, 1811-1824.	0.7	17
63	Effect of copper addition on the characteristics of high-carbon and high-chromium steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 614, 36-44.	2.6	17
64	Ausforming of medium carbon steel. Materials Science and Technology, 2015, 31, 436-442.	0.8	17
65	Effects of Molybdenum Addition on Hydrogen Desorption of TiC Precipitation-Hardened Steel. Metals and Materials International, 2018, 24, 532-536.	1.8	17
66	Dual orientation and variant selection during diffusional transformation of austenite to allotriomorphic ferrite. Journal of Materials Science, 2010, 45, 4126-4132.	1.7	16
67	Retention of Î´-ferrite in aluminium-alloyed TRIP-assisted steels. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2012, 468, 2904-2914.	1.0	16
68	Effect of constituent phase on mechanical properties of 9Crâ€“1WVTa reduced activation ferriticâ€“martensitic steels. Journal of Nuclear Materials, 2014, 455, 421-425.	1.3	16
69	Role of grain size on deformation microstructures and stretch-flangeability of TWIP steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 773, 138861.	2.6	15
70	Effect of Second Phase on the Deformation and Fracture Behavior of Multiphase Low-Density Steels. Jom, 2014, 66, 1837-1844.	0.9	14
71	Cracks in Martensite Plates as Hydrogen Traps in a Bearing Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 665-673.	1.1	14
72	Influence of the Initial Microstructure on the Reverse Transformation Kinetics and Microstructural Evolution in Transformation-Induced Plasticityâ€“Assisted Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 5352-5361.	1.1	14

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73	Influence of initial microstructures on intercritical annealing behaviour in a medium Mn steel. Materials Science and Technology, 2019, 35, 2092-2100.	0.8	13
74	Hydrogen Behavior in Ti-Added Reduced Activation Ferritic-Martensitic Steels. Metals and Materials International, 2021, 27, 425-435.	1.8	13
75	Influence of Microstructure Constituents on the Hydrogenâ€Induced Mechanical Degradation in Ultraâ€High Strength Sheet Steels. Metals and Materials International, 2021, 27, 3959-3967.	1.8	13
76	Evaluation of Dislocation Density from the Flow Curves of Hot Deformed Austenite.. ISIJ International, 2002, 42, 564-566.	0.6	12
77	Serration of Grain Boundary in Ni-300Fe Alloy through High Temperature Deformation.. ISIJ International, 2002, 42, 1026-1032.	0.6	12
78	Effect of initial grain size of austenite on hot-deformed structure of Ni-30Fe alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2004, 35, 3399-3408.	1.1	12
79	Critical Assessment 2: Hydrogen induced fracture in austenitic, high-manganese TWIP steel. Materials Science and Technology, 2014, 30, 1131-1134.	0.8	12
80	Toughness anisotropy in X70 and X80 linepipe steels. Materials Science and Technology, 2014, 30, 439-446.	0.8	12
81	Influence of Cr and Ni on Microstructural Evolution during Heat Treatment of Low-Carbon Transformation Induced Plasticity Steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 2015-2019.	1.1	11
82	Influence of Al on Microstructure and Mechanical Behavior of Cr-Containing Transformation-Induced Plasticity Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2010, 41, 3276-3281.	1.1	11
83	Quenching and partitioning (Q&P) processed medium Mn steel starting from heterogeneous microstructure. Materialia, 2020, 12, 100757.	1.3	11
84	Heat treatment response of TiC-reinforced steel matrix composite. Metals and Materials International, 2016, 22, 935-941.	1.8	10
85	Tempering Behavior of TiC-Reinforced SKD11 Steel Matrix Composite. Metals and Materials International, 2018, 24, 644-651.	1.8	10
86	Microstructure and Mechanical Properties of Austempered Medium-Carbon Spring Steel. Metals and Materials International, 2018, 24, 693-701.	1.8	10
87	Effect of molybdenum and chromium on hardenability of low-carbon boron-added steels. Metals and Materials International, 2008, 14, 667-672.	1.8	10
88	Hydrogen Trapping Characteristics and Mechanical Degradation in a Duplex Stainless Steel. Metals and Materials International, 2023, 29, 126-134.	1.8	10
89	A Finite Element Modeling for Dilatometric Nonisotropy in Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 2094-2106.	1.1	9
90	Influence of Initial Pearlite Morphology on the Microstructure Evolution During Heat Treatment of 1.0Câ€“1.5Cr Steel. Metals and Materials International, 2019, 25, 9-17.	1.8	9

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91	Partially-recrystallized ferrite grains and multiple plasticity enhancing mechanisms in a medium Mn steel. Materials Characterization, 2019, 155, 109812.	1.9	9
92	Kinetic transition during the growth of proeutectoid ferrite in Fe-C-Mn-Si quaternary steel. Metals and Materials International, 2013, 19, 153-158.	1.8	8
93	Segregation of phosphorus to ferrite grain boundaries during transformation in an Feâ€“P alloy. International Journal of Materials Research, 2014, 105, 1166-1172.	0.1	8
94	Influence of the Initial Microstructure on the Heat Treatment Response and Tensile Properties of TRIP-Assisted Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 5259-5265.	1.1	8
95	Design of Online Spheroidization Process for 1.0C-1.5Cr Bearing Steel and Microstructure Analysis. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 1782-1794.	1.1	8
96	Isothermal transformation of austenite to ferrite and precipitation behavior in 9Cr-1.5Mo-1.25Co-0.1C-VNb heat-resistant steel. Materials Characterization, 2020, 170, 110677.	1.9	8
97	Underlying structure of bulky oxide nodule on alumina-forming austenitic stainless steel. Scripta Materialia, 2015, 102, 63-66.	2.6	7
98	Ti-bearing lightweight steel with large high temperature ductility via thermally stable multi-phase microstructure. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 808, 140954.	2.6	7
99	Finite-element analysis of dimensional non-isotropy during phase transformation in microstructurally banded steel. Scripta Materialia, 2011, 65, 569-572.	2.6	6
100	Calculation of Transformation Plasticity during Coherent Transformation of Steel. ISIJ International, 2006, 46, 341-343.	0.6	6
101	Plastic Strain due to Isothermal Transformation from Austenite to Ferrite in IF and Low Carbon Steels. Materials Transactions, 2007, 48, 882-885.	0.4	5
102	Influence of Heating Rate on Annealing and Reverse Transformation Behavior of TRIP Steels Having Martensite as Starting Microstructure. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 5217-5222.	1.1	5
103	Limit of ferrite grain refinement by severe plastic deformation of austenite. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2005, 36, 1057-1059.	1.1	4
104	Transformation plasticity in boron-bearing low carbon steel. Metals and Materials International, 2015, 21, 799-804.	1.8	4
105	Hardness and Transverse Rupture Strength of TiC-Reinforced SKD11 Steel Matrix Composite. Metals and Materials International, 2020, 26, 302-309.	1.8	4
106	Effect of nickel content on the neutron irradiation embrittlement of Ni-Mo-Cr steels. Metals and Materials International, 2013, 19, 1203-1208.	1.8	3
107	Hydrogen Permeation in Cold-RolledÂHigh-Mn Twinning-Induced Plasticity Steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 5211-5216.	1.1	3
108	Prediction of Retained Austenite Fraction in Quenching-and-Partitioning (Q&P) Steels Using the Gibbs Energy Balance Approach. Metals and Materials International, 2022, 28, 2059-2067.	1.8	3

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109	Numerical modelling of moving interfaces under local equilibrium conditions. Calphad: Computer Coupling of Phase Diagrams and Thermochemistry, 2017, 59, 164-170.	0.7	2
110	Influence of Mo and Cr Contents on Hardenability of Low-Carbon Boron Steels. Korean Journal of Materials Research, 2013, 23, 555~561-555~561.	0.1	2
111	Observation of Micro-scale Surface Morphology with Microtexture Development During Plane Strain Tensile Deformation in AZ31 Magnesium Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2015, 46, 12-17.	1.1	1
112	Tensile test criterion of transformation-induced elasticity and plasticity alloys for load-displacement measurement. Journal of Alloys and Compounds, 2017, 711, 305-311.	2.8	0