Harshad Bhadeshia

List of Publications by Year
in descending order

121 papers	8,045 citations	81900 39 h-index	49909 87 g-index
122 all docs	122 docs citations	122 times ranked	4011 citing authors

#	Article	IF	Citations
1	Cementite. International Materials Reviews, 2020, 65, 1-27.	19.3	84
2	First-principles calculations of elastic constants for epsilon-carbide and the consequences. Materials Science and Technology, 2020, 36, 615-622.	1.6	3
3	Critical Assessment 34: Are Ï‡ (HÃgg), Î· and Ïµ carbides transition-phases relative to cementite in steels?. Materials Science and Technology, 2019, 35, 1301-1305.	1.6	8
4	Tensile behaviour of thermally-stable nanocrystalline bainitic-steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 746, 145-153.	5.6	13
5	Harnessing the scientific synergy of welding and additive manufacturing. Science and Technology of Welding and Joining, 2019, 24, 361-366.	3.1	22
6	Modelling of size distribution of blocky retained austenite in Si-containing bainitic steels. Materials Science and Technology, 2018, 34, 54-62.	1.6	7
7	Intermetallic-strengthened nanocrystalline bainitic steel. Materials Science and Technology, 2018, 34, 1976-1979.	1.6	5
8	Designing steel to resist hydrogen embrittlement Part 2 â€“ precipitate characterisation. Materials Science and Technology, 2018, 34, 1747-1758.	1.6	8
9	Solution to the Bagaryatskii and Isaichev ferriteâ€“cementite orientation relationship problem. Materials Science and Technology, 2018, 34, 1666-1668.	1.6	12
10	Elucidating white-etching matter through high-strain rate tensile testing. Materials Science and Technology, 2017, 33, 307-310.	1.6	14
11	Strength and toughness of clean nanostructured bainite. Materials Science and Technology, 2017, 33, 1171-1179.	1.6	15
12	Tempering of Low-Temperature Bainite. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2017, 48, 3410-3418.	2.2	28
13	Effect of manganese sulphide particle shape on the pinning of grain boundary. Materials Science and Technology, 2017, 33, 1013-1018.	1.6	10
14	In situ synchrotron X-ray study of bainite transformation kinetics in a low-carbon Si-containing steel. Materials Science and Technology, 2017, 33, 2147-2156.	1.6	28
15	Modelling of transition from upper to lower bainite in multi-component system. Materials Science and Technology, 2017, 33, 430-437.	1.6	8
16	Melt-spinning and semi-solid processing of bainitic steel. Materials Science and Technology, 2017, 33, 870-878.	1.6	2
17	Atomic Mechanism of the Bainite Transformation. HTM - Journal of Heat Treatment and Materials, 2017, 72, 340-345.	0.2	9
18	The Effect of a Two-Stage Heat-Treatment on the Microstructural and Mechanical Properties of a Maraging Steel. Materials, 2017, 10, 1346.	2.9	24

#	Article	IF	Citations
19	Recent developments in bearing steels. Materials Science and Technology, 2016, 32, 1059-1061.	1.6	7
20	Critical Assessment 13: Elimination of white etching matter in bearing steels. Materials Science and Technology, 2015, 31, 1011-1015.	1.6	64
21	Dry rolling/sliding wear of nanostructured pearlite. Materials Science and Technology, 2015, 31, 1735-1744.	1.6	29
22	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.	2.2	14
23	Ausforming of medium carbon steel. Materials Science and Technology, 2015, 31, 436-442.	1.6	17
24	Surface residual stresses in multipass welds produced using low transformation temperature filler alloys. Science and Technology of Welding and Joining, 2014, 19, 623-630.	3.1	23
25	Macrosegregation and Microstructural Evolution in a Pressure-Vessel Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 2983-2997.	2.2	29
26	Bearing steel microstructures after aircraft gas turbine engine service. Materials Science and Technology, 2014, 30, 1911-1918.	1.6	36
27	Model for multiple stress affected martensitic transformations, microstructural entropy and consequences on scatter in properties. Materials Science and Technology, 2014, 30, 160-165.	1.6	4
28	White-Etching Matter in Bearing Steel. Part I: Controlled Cracking of 52100 Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 4907-4915.	2.2	25
29	White-Etching Matter in Bearing Steel. Part II: Distinguishing Cause and Effect in Bearing Steel Failure. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2014, 45, 4916-4931.	2.2	65
30	Shear band structure in ballistically tested bainitic steels. Materials Science and Technology, 2014, 30, 812-817.	1.6	3
31	Spheroidisation of hypereutectoid state of nanostructured bainitic steel. Materials Science and Technology, 2014, 30, 1282-1286.	1.6	12
32	Toughness anisotropy in X70 and X80 linepipe steels. Materials Science and Technology, 2014, 30, 439-446.	1.6	12
33	Effects of dilution and baseplate strength on stress distributions in multipass welds deposited using low transformation temperature filler alloys. Science and Technology of Welding and Joining, 2014, 19, 461-467.	3.1	25
34	Effect of interpass temperature on residual stresses in multipass welds produced using low transformation temperature filler alloy. Science and Technology of Welding and Joining, 2014, 19, 44-51.	3.1	44
35	Mechanism and Kinetics of Solid-State Transformation in High-Temperature Processed Linepipe Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2013, 44, 5468-5477.	2.2	10
36	Carbon in cubic and tetragonal ferrite. Philosophical Magazine, 2013, 93, 3714-3725.	1.6	33

#	Article	IF	Citations
37	The first bulk nanostructured metal. Science and Technology of Advanced Materials, 2013, 14, 014202.	6.1	108
38	Modelling coarsening behaviour of TiC precipitates in high strength, low alloy steels. Materials Science and Technology, 2013, 29, 1074-1079.	1.6	22
39	Interphase precipitation in Tiâ€“Nb and Tiâ€“Nbâ€“Mo bearing steel. Materials Science and Technology, 2013, 29, 309-313.	1.6	81
40	Comments on â€˜Determination of M_s temperature: methods, meaning and influence of â€˜slow startâ€™ phenomenonâ€™ by T. Sourmail and V. Smanio. Materials Science and Technology, 2013, 29, 889-889.	1.6	4
41	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.	2.1	66
42	Spot weldability of TRIP assisted steels with high carbon and aluminium contents. Science and Technology of Welding and Joining, 2012, 17, 92-98.	3.1	33
43	Divorced pearlite in steels. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2012, 468, 2767-2778.	2.1	40
44	Duplex Hardening of Steels for Aeroengine Bearings. ISIJ International, 2012, 52, 1927-1934.	1.4	47
45	Tool durability maps for friction stir welding of an aluminium alloy. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2012, 468, 3552-3570.	2.1	32
46	Steels for bearings. Progress in Materials Science, 2012, 57, 268-435.	32.8	759
47	Review: Friction stir welding tools. Science and Technology of Welding and Joining, 2011, 16, 325-342.	3.1	623
48	Thermal stability of retained austenite in bainitic steel: anÂ in situ study. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2011, 467, 3141-3156.	2.1	81
49	Extraordinary ductility in Al-bearing Î´-TRIP steel. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2011, 467, 234-243.	2.1	38
50	Heat transfer coefficients during quenching of steels. Heat and Mass Transfer, 2011, 47, 315-321.	2.1	39
51	Surface Relief Due to Bainite Transformation at 473ÂK (200ÂÂ°C). Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 3344-3348.	2.2	28
52	1000 gems: Celebration of STWJ. Science and Technology of Welding and Joining, 2011, 16, 285-287.	3.1	0
53	Diffusion-controlled growth of pearlite in ternary steels. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2011, 467, 2948-2961.	2.1	24
54	Mixed diffusion-controlled growth of pearlite in binary steel. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2011, 467, 508-521.	2.1	30

#	Article	IF	Citations
55	A Commentary on: â€œDiffusion of Carbon in Austenite with a Discontinuity in Compositionâ€• Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2010, 41, 1605-1615.	2.2	12
56	A Commentary on: â€œDiffusion of Carbon in Austenite with a Discontinuity in Compositionâ€• Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2010, 41, 741-751.	2.1	0
57	Friction stir welding of dissimilar alloys â€“ a perspective. Science and Technology of Welding and Joining, 2010, 15, 266-270.	3.1	243
58	Spot weldability of Î´-TRIP steel containing 0Â·4 wt-%C. Science and Technology of Welding and Joining, 2010, 15, 619-624.	3.1	21
59	Induction welding and heat treatment of steel pipes: Evolution of crystallographic texture detrimental to toughness. Science and Technology of Welding and Joining, 2010, 15, 137-141.	3.1	25
60	Non-equilibrium solidification and ferrite in Î´-TRIP steel. Materials Science and Technology, 2010, 26, 817-823.	1.6	44
61	Very Short and Very Long Heat Treatments in the Processing of Steel. Materials and Manufacturing Processes, 2010, 25, 1-6.	4.7	22
62	Nanostructured bainite. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2010, 466, 3-18.	2.1	247
63	Guest Editorial: Personal perspective on microstructure of steels: 25th anniversary of MST and collection of papers in honour of Sir Robert Honeycombe. Materials Science and Technology, 2010, 26, 379-385.	1.6	2
64	Bainite orientation in plastically deformed austenite. International Journal of Materials Research, 2009, 100, 40-45.	0.3	32
65	The Effects of Filler Metal Transformation Temperature on Residual Stresses in a High Strength Steel Weld. Journal of Pressure Vessel Technology, Transactions of the ASME, 2009, 131, .	0.6	52
66	Effects of weld preheat temperature and heat input on type IV failure. Science and Technology of Welding and Joining, 2009, 14, 436-442.	3.1	27
67	Stainless steel weld metal designed to mitigate residual stresses. Science and Technology of Welding and Joining, 2009, 14, 559-565.	3.1	44
68	Neural Networks and Information in Materials Science. Statistical Analysis and Data Mining, 2009, 1, 296-305.	2.8	68
69	Performance of neural networks in materials science. Materials Science and Technology, 2009, 25, 504-510.	1.6	99
70	Transformation texture of allotriomorphic ferrite in steel. Materials Science and Technology, 2009, 25, 892-895.	1.6	18
71	Elongation of Irradiated Steels. Materials and Manufacturing Processes, 2009, 24, 130-137.	4.7	3
72	Characterizing Phase Transformations and Their Effects on Ferritic Weld Residual Stresses with X-Rays and Neutrons. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 3070-3078.	2.2	111

#	Article	IF	Citations
73	Strength of Ferritic Steels: Neural Networks and Genetic Programming. Materials and Manufacturing Processes, 2008, 24, 10-15.	4.7	30
74	Calculation of crystallographic texture due to displacive transformations. International Journal of Materials Research, 2008, 99, 342-346.	0.3	25
75	Influence of silicon on cementite precipitation in steels. Materials Science and Technology, 2008, 24, 343-347.	1.6	259
76	Crystallographic texture of stress-affected bainite. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2007, 463, 2309-2328.	2.1	77
77	TRIP-assisted steels: cracking of high-carbon martensite. Materials Science and Technology, 2006, 22, 645-649.	1.6	70
78	In-situ observations of lattice parameter fluctuations in austenite and transformation to bainite. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2005, 36, 3281-3289.	2.2	207
79	Microstructural evolution in two variants of NF709 at 1023 and 1073 K. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2005, 36, 23-34.	2.2	71
80	Moì‚ssbauer Analysis of Low-Temperature Bainite. AIP Conference Proceedings, 2005, , .	0.4	2
81	Carbonâ€“carbon interactions in iron. Journal of Materials Science, 2004, 39, 3949-3955.	3.7	45
82	A model for austenitisation of hypoeutectoid steels. Journal of Materials Science, 2003, 38, 1195-1201.	3.7	37
83	Influence of Deformation on Recrystallization of an Yttrium Oxide Dispersion-Strengthened Iron Alloy (PM2000). Advanced Engineering Materials, 2003, 5, 232-237.	3.5	19
84	Modeling M6C precipitation in niobium-alloyed ferritic stainless steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2002, 33, 3339-3347.	2.2	26
85	Acicular ferrite morphologies in a medium-carbon microalloyed steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2001, 32, 2187-2197.	2.2	39
86	Analysis of toughness of welding alloys for high strength low alloy shipbuilding steels. Science and Technology of Welding and Joining, 2001, 6, 368-374.	3.1	15
87	Neural network analysis of strength and ductility of welding alloys for high strength low alloy shipbuilding steels. Science and Technology of Welding and Joining, 2001, 6, 116-124.	3.1	34
88	Analysis of toughness of welding alloys for high strength low alloy shipbuilding steels. Science and Technology of Welding and Joining, 2001, 6, 368-374.	3.1	2
89	Estimation of mechanical properties of ferritic steel welds. Part 1: Yield and tensile strength. Science and Technology of Welding and Joining, 2000, 5, 135-147.	3.1	38
90	Bruscato factor in temper embrittlement of welds. Science and Technology of Welding and Joining, 2000, 5, 338-340.	3.1	5

#	Article	IF	Citations
91	Estimation of mechanical properties of ferritic steel welds. Part 2: Elongation and Charpy toughness. Science and Technology of Welding and Joining, 2000, 5, 149-160.	3.1	25
92	Neural Networks in Materials Science.. ISIJ International, 1999, 39, 966-979.	1.4	546
93	Estimation of bainite plate-thickness in low-alloy steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1998, 245, 72-79.	5.6	264
94	Topology of grain deformation. Materials Science and Technology, 1998, 14, 832-834.	1.6	40
95	Austenite formation in 9Crâ€“1Mo type power plant steels. Science and Technology of Welding and Joining, 1997, 2, 36-42.	3.1	6
96	The evolution of solutions: A thermodynamic analysis of mechanical alloying. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1997, 28, 2189-2194.	2.2	46
97	Austenite formation in 9Crâ€“1Mo type power plant steels. Science and Technology of Welding and Joining, 1997, 2, 36-42.	3.1	1
98	Stress-affected transformation to lower bainite. Journal of Materials Science, 1996, 31, 2145-2148.	3.7	22
99	Austenite films in bainitic microstructures. Materials Science and Technology, 1995, 11, 874-882.	1.6	190
100	Atom probe and STEM studies of carbide precipitation in 2Cr1Mo steel. Applied Surface Science, 1993, 67, 334-341.	6.1	9
101	Crystallographic texture in mechanically alloyed oxide dispersion-strengthened MA956 and MA957 steels. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1993, 24, 773-779.	1.4	31
102	Nonuniform recrystallization in a mechanically alloyed nickel-base superalloy. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1993, 24, 1049-1055.	1.4	21
103	Mechanism of the Transition from Bainite to Acicular Ferrite. Materials Transactions, JIM, 1991, 32, 679-688.	0.9	77
104	A Model for the Microstructure of Some Advanced Bainitic Steels. Materials Transactions, JIM, 1991, 32, 689-696.	0.9	107
105	Crystallographic texture and the austenite grain structure of low-alloy steel weld deposits. Journal of Materials Science Letters, 1991, 10, 142-144.	0.5	18
106	Bainite in steels. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1990, 21, 767-797.	1.4	481
107	Coupled diffusional/displacive transformations: Part II. Solute trapping. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1990, 21, 805-809.	1.4	41
108	The distribution of substitutional alloying elements during the bainite transformation. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1990, 21, 837-844.	1.4	49

#	Article	IF	Citations
109	The bainite transformation in chemically heterogeneous 300M high-strength steel. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1990, 21, 859-875.	1.4	35
110	The estimation of non-uniform elongation in low-alloy steel weld deposits. Journal of Materials Science, 1990, 25, 613-618.	3.7	2
111	Model for transition from upper to lower bainite. Materials Science and Technology, 1990, 6, 592-603.	1.6	162
112	The microstructure of submerged arc-weld deposits for high-strength steels. Journal of Materials Science, 1989, 24, 3180-3188.	3.7	15
113	The nonunjform distribution of inclusions in low-alloy steel weld deposits. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1988, 19, 669-674.	1.4	15
114	Fe-Cr-C hardfacing alloys for high-temperature applications. Journal of Materials Science, 1986, 21, 1015-1019.	3.7	63
115	The austenite grain structure of low-alloy steel weld deposits. Journal of Materials Science, 1986, 21, 3947-3951.	3.7	1
116	The influence of alloying elements on the formation of allotriomorphic ferrite in low-alloy steel weld deposits. Journal of Materials Science Letters, 1985, 4, 305-308.	0.5	10
117	Thermodynamic analysis of isothermal transformation diagrams. Metal Science, 1982, 16, 159-166.	0.7	270
118	An aspect of the nucleation of burst martensite. Journal of Materials Science, 1982, 17, 383-386.	3.7	21
119	Diffusional Transformations: A Theory for the Formation of Superledges. Physica Status Solidi A, 1982, 69, 745-750.	1.7	37
120	Diffusion of carbon in austenite. Metal Science, 1981, 15, 477-480.	0.7	70
121	The bainite transformation in a silicon steel. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1979, 10, 895-907.	1.4	488