Vijay K Vasudevan

List of Publications by Year
in descending order

73 papers	2,633 citations	186209 28 h-index	189801 50 g-index
76 all docs	76 docs citations	76 times ranked	1600 citing authors

#	Article	IF	Citations
1	Formation of the Laves Phase in Nb-Ti-Cr-Si-X-Based Alloys. Transactions of the Indian Institute of Metals, 2022, 75, 931.	0.7	1
2	A Review of Lowâ€Plasticity Burnishing and Its Applications. Advanced Engineering Materials, 2022, 24, .	1.6	4
3	Tensile Properties and Fracture Behavior of ATI 718Plus Alloy at Room and Elevated Temperatures. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2021, 52, 3553-3569.	1.1	4
4	Remarkable near-surface microstructure of nanoparticles and oxide film in laser shock peened Al-Zn-Mg-Cu alloy. Scripta Materialia, 2021, 202, 114012.	2.6	10
5	Tribological performance of 52,100 steel subjected to boron-doped DLC coating and ultrasonic nanocrystal surface modification. Wear, 2020, 458-459, 203398.	1.5	7
6	Effects of ultrasonic nanocrystal surface modification on the surface integrity, microstructure, and wear resistance of 300M martensitic ultra-high strength steel. Journal of Materials Processing Technology, 2020, 285, 116767.	3.1	42
7	On the comparison of graded microstructures developed through High Reduction (per pass) Cold Rolling (HRCR) and Ultrasonic Nanocrystal Surface Modification (UNSM) in nickel-base Alloy 602CA. Materials Characterization, 2019, 153, 328-338.	1.9	15
8	Residual stress, phase, microstructure and mechanical property studies of ultrafine bainitic steel through laser shock peening. Optics and Laser Technology, 2019, 115, 447-458.	2.2	41
9	Laser shock peening modified surface texturing, microstructure and mechanical properties of graphene dispersion strengthened aluminium nanocomposites. Surfaces and Interfaces, 2019, 14, 127-137.	1.5	12
10	Effect of temperature on microstructure and residual stresses induced by surface treatments in Inconel 718 SPF. Surface and Coatings Technology, 2018, 344, 93-101.	2.2	25
11	Effect of ultrasonic nanocrystal surface modification on elevated temperature residual stress, microstructure, and fatigue behavior of ATI 718Plus alloy. International Journal of Fatigue, 2018, 110, 186-196.	2.8	37
12	Effect of Ultrasonic Nanocrystal Surface Modification on residual stress, microstructure and fatigue behavior of ATI 718Plus alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 711, 364-377.	2.6	82
13	Effects of Ultrasonic Nanocrystal Surface Modification on the Residual Stress, Microstructure, and Corrosion Resistance of 304 Stainless Steel Welds. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2018, 49, 972-978.	1.1	23
14	Enhanced surface and mechanical properties of bioinspired nanolaminate graphene-aluminum alloy nanocomposites through laser shock processing for engineering applications. Materials Today Communications, 2018, 16, 81-89.	0.9	26
15	A computational study on the microstructural evolution in near-surface copper grain boundary structures due to femtosecond laser processing. Computational Mechanics, 2018, 61, 105-117.	2.2	5
16	Simulation-based prediction of cyclic failure in rubbery materials using nonlinear space-time finite element method coupled with continuum damage mechanics. Finite Elements in Analysis and Design, 2018, 138, 21-30.	1.7	6
17	Laser shock peening without coating induced residual stress distribution, wettability characteristics and enhanced pitting corrosion resistance of austenitic stainless steel. Applied Surface Science, 2018, 428, 17-30.	3.1	104
18	Effect of thermo-mechanical processing on sensitization and corrosion in alloy 600 studied by SEM- and TEM-Based diffraction and orientation imaging techniques. Journal of Nuclear Materials, 2018, 505, 276-288.	1.3	16

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19	Effects of corrosion-inhibiting surface treatments on irradiated microstructure development in Ni-base alloy 718. Journal of Nuclear Materials, 2018, 512, 276-287.	1.3	10
20	Localized plastic deformation and hardening in laser shock peened Inconel alloy 718SPF. Materials Characterization, 2018, 142, 15-26.	1.9	36
21	Hierarchical structures on nickel-titanium fabricated by ultrasonic nanocrystal surface modification. Materials Science and Engineering C, 2018, 93, 12-20.	3.8	20
22	Effect of laser shock peening on residual stress, microstructure and fatigue behavior of ATI 718Plus alloy. International Journal of Fatigue, 2017, 102, 121-134.	2.8	109
23	The effects of ultrasonic nanocrystal surface modification on the fatigue performance of 3D-printed Ti64. International Journal of Fatigue, 2017, 103, 136-146.	2.8	102
24	Effect of laser shock peening on elevated temperature residual stress, microstructure and fatigue behavior of ATI 718Plus alloy. International Journal of Fatigue, 2017, 104, 366-378.	2.8	66
25	Accelerated multiscale spaceâ€“time finite element simulation and application to high cycle fatigue life prediction. Computational Mechanics, 2016, 58, 329-349.	2.2	11
26	Iterative thermomechanical processing of alloy 600 for improved resistance to corrosion and stress corrosion cracking. Acta Materialia, 2016, 113, 180-193.	3.8	61
27	Surface amorphization of NiTi alloy induced by Ultrasonic Nanocrystal Surface Modification for improved mechanical properties. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 53, 455-462.	1.5	60
28	Characteristics of surface layers formed on inconel 718 by laser shock peening with and without a protective coating. Journal of Materials Processing Technology, 2015, 225, 463-472.	3.1	111
29	Surface grain boundary engineering of Alloy 600 for improved resistance to stress corrosion cracking. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 648, 280-288.	2.6	59
30	Effects of laser shock peening on SCC behavior of Alloy 600 in tetrathionate solution. Corrosion Science, 2015, 90, 434-444.	3.0	62
31	Experimental and Finite Element Simulation Study of Thermal Relaxation of Residual Stresses in Laser Shock Peened IN718 SPF Superalloy. Experimental Mechanics, 2014, 54, 1597-1611.	1.1	25
32	Effects of Ultrasonic Nano-Crystal Surface Modification on the Microstructure and Properties of 304 Austenitic Stainless Steel. , 2014, , .		0
33	A multi-temporal scale approach to high cycle fatigue simulation. Computational Mechanics, 2014, 53, 387-400.	2.2	16
34	Gradient nanostructure and residual stresses induced by Ultrasonic Nano-crystal Surface Modification in 304 austenitic stainless steel for high strength and high ductility. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 613, 274-288.	2.6	258
35	Cyclic Strain Resistance, Stress Response, Fatigue Life, and Fracture Behavior of High Strength Low Alloy Steel 300ÂM. Journal of Materials Engineering and Performance, 2014, 23, 1799-1814.	1.2	1
36	Comparison of mechanisms of advanced mechanical surface treatments in nickel-based superalloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 576, 346-355.	2.6	119

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37	Simulation-based optimization of laser shock peening process for improved bending fatigue life of Tiâ€“6Alâ€“2Snâ€“4Zrâ€“2Mo alloy. Surface and Coatings Technology, 2013, 232, 464-474.	2.2	72
38	Thermal relaxation of residual stress in laser shock peened Tiâ€“6Alâ€“4V alloy. Surface and Coatings Technology, 2012, 206, 4619-4627.	2.2	77
39	High spatial resolution, high energy synchrotron x-ray diffraction characterization of residual strains and stresses in laser shock peened Inconel 718SPF alloy. Journal of Applied Physics, 2012, 111, .	1.1	22
40	A finite element study of thermal relaxation of residual stress in laser shock peened IN718 superalloy. International Journal of Impact Engineering, 2011, 38, 590-596.	2.4	85
41	Microstructure of Long-Term Aged IN617 Ni-Base Superalloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2008, 39, 2569-2585.	1.1	165
42	Microstructural characterization of multicomponent Nb-Ti-Si-Cr-Al-X alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2006, 37, 2669-2682.	1.1	13
43	Synthesis of TiO₂ Nanoparticles Using Chemical Vapor Condensation. Materials Research Society Symposia Proceedings, 2005, 879, 1.	0.1	5
44	Roles of Surface Te, Nb, and Sb Oxides in Propane Oxidation to Acrylic Acid over Bulk Orthorhombic Moâ^'Vâ^'O Phase. Journal of Physical Chemistry B, 2005, 109, 24046-24055.	1.2	48
45	Bulk mixed Moâ€“Vâ€“Teâ€“O catalysts for propane oxidation to acrylic acid. Applied Catalysis A: General, 2004, 274, 123-132.	2.2	67
46	Microstructural effects on the tensile properties and deformation behavior of a Ti-48Al gamma titanium aluminide. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2003, 34, 2113-2127.	1.1	10
47	Model bulk Moâ€“Vâ€“Teâ€“O catalysts for selective oxidation of propane to acrylic acid. Catalysis Communications, 2003, 4, 537-542.	1.6	31
48	Reversible Hydrogen Absorption/Desorption and Related Lattice Deformation of Ti3Al Based Alloys in the Ti-Al-Nb System. Materials Research Society Symposia Proceedings, 2002, 753, 1.	0.1	0
49	Static and in-situ high-resolution transmission electron microscopy investigations of the atomic structure and dynamics of massive transformation interfaces in a Ti-Al alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2002, 33, 2391-2411.	1.1	64
50	Effect of chromium addition on the ordering behaviour of Niâ€“Mo alloy: experimental results vs. electronic structure calculations. Acta Materialia, 2002, 50, 3301-3315.	3.8	51
51	Site occupancy preferences in the B2 ordered phase in Nbâ€“rich Nbâ€“Tiâ€“Al alloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 329-331, 461-467.	2.6	6
52	Examination of solidification pathways and the liquidus surface in the Nb-Ti-Al system. Metallurgical and Materials Transactions B: Process Metallurgy and Materials Processing Science, 2000, 31, 1305-1321.	1.0	30
53	Geometrical and structural characteristics of stacking fault-antiphase-boundary interactions in the massive Î³phase in a quenched Ti-46.5 at.% Al alloy. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 2000, 80, 185-199.	0.7	7
54	Phase equilibria and solid state transformations in Nb-rich Nbâ€“Tiâ€“Al intermetallic alloys. Intermetallics, 2000, 8, 1257-1268.	1.8	37

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55	Analysis of Weak-Beam Contrast from SESF/SISF Fault Pairs Associated with Â½ <112] Superdislocations in TiAl. Materials Research Society Symposia Proceedings, 1998, 552, 1.	0.1	0
56	The geometry and nature of pinning points of Â½ âŸ¨110] unit dislocations in binary TiAl alloys. Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties, 1997, 76, 965-993.	0.7	98
57	Crystallographic analysis and observations of true twinning modes in the Ni2Mo superlattice phase contained in a Ni-25Mo-8Cr alloy. Acta Materialia, 1997, 45, 3203-3222.	3.8	10
58	Deformation-induced pseudo-twinning and a new superstructure in Ni2Mo precipitates contained in a Ni-25Mo-8Cr alloy. Acta Materialia, 1996, 44, 3575-3583.	3.8	15
59	Mechanical properties and strengthening of a Niî—¸25Moî—¸8Cr alloy containing Ni2(Mo,Cr) precipitates. Acta Materialia, 1996, 44, 4865-4880.	3.8	47
60	Deformation Behavior and Dislocation Mechanisms in Tial Alloys. Materials Research Society Symposia Proceedings, 1994, 364, 647.	0.1	3
61	The Î±â†'Î³ Transformation During Continuous Cooling in Ti-48 At% Al Alloys. Materials Research Society Symposia Proceedings, 1992, 288, 223.	0.1	12
62	Effect of Cooling Rate on Decomposition of the Î± Phase in Ti-(43-50) At.% Al ALLOYS:. Materials Research Society Symposia Proceedings, 1992, 288, 229.	0.1	3
63	Mechanical Properties and Dislocation Structures in TiAl Alloys with Varying Aluminum Contents. Materials Research Society Symposia Proceedings, 1992, 288, 737.	0.1	3
64	Tensile, Creep Properties and Microstructural Correlations in an Extruded Ti-48Al Alloy. Materials Research Society Symposia Proceedings, 1992, 288, 787.	0.1	2
65	Short-Range to Long-Range Ordering Reactions in a Ni-25Mo-8Cr Alloy. Materials Research Society Symposia Proceedings, 1990, 213, 187.	0.1	6
66	Deformation Mechanisms in TiAl-Based Alloys Containing Low Oxygen. Materials Research Society Symposia Proceedings, 1990, 213, 375.	0.1	10
67	Factors influencing the deformation mechanisms in the intermetallic compounds Al₃Ti and Al₃V. Philosophical Magazine Letters, 1990, 62, 143-151.	0.5	6
68	Formation mechanism of Ni3Mo at low temperatures in ternary Ni, Moâ€”Cr alloys. Philosophical Magazine Letters, 1989, 60, 269-275.	0.5	2
69	The microstructures of rapidly solidified and heat-treated Alî—¸8Feî—¸2Moî—¸Si alloys. Materials Science and Engineering, 1988, 98, 131-136.	0.1	15
70	The mechanisms of plastic deformation of rapidly solidified Al3Ti and Al67Ni8Ti25 intermetallic compounds.. Materials Research Society Symposia Proceedings, 1988, 133, 705.	0.1	7
71	The Microstructures of Rapidly Solidified and Heat-Treated Alâ€“8Feâ€“2Moâ€“Si Alloys. , 1988, , 131-136.		0
72	Identification of precipitates in rapidly solidified and heat-treated Al-8Fe-2Mo-Si alloys. Scripta Metallurgica, 1987, 21, 1105-1110.	1.2	14

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73	Fatigue Performance Improvement of 7075-T651 Aluminum Alloy by Ultrasonic Nanocrystal Surface Modification. Journal of Materials Engineering and Performance, 0, , 1.	1.2	1