Huseyin Sehitoglu

List of Publications by Year
in descending order

67 papers	4,411 citations	94433 37 h-index	110387 64 g-index
69 all docs	69 docs citations	69 times ranked	2662 citing authors

#	Article	IF	Citations
1	Energy of slip transmission and nucleation at grain boundaries. Acta Materialia, 2011, 59, 283-296.	7.9	332
2	The role of texture in tensionâ€“compression asymmetry in polycrystalline NiTi. International Journal of Plasticity, 1999, 15, 69-92.	8.8	292
3	Slip transfer and plastic strain accumulation across grain boundaries in Hastelloy X. Journal of the Mechanics and Physics of Solids, 2012, 60, 1201-1220.	4.8	223
4	The role of grain boundaries on fatigue crack initiation â€“ An energy approach. International Journal of Plasticity, 2011, 27, 801-821.	8.8	201
5	High resolution digital image correlation measurements of strain accumulation in fatigue crack growth. International Journal of Fatigue, 2013, 57, 140-150.	5.7	170
6	Cyclic ratchetting of 1070 steel under multiaxial stress states. International Journal of Plasticity, 1994, 10, 579-608.	8.8	157
7	A model for rolling contact failure. Wear, 1999, 224, 38-49.	3.1	149
8	Plastic deformation of NiTi shape memory alloys. Acta Materialia, 2013, 61, 67-78.	7.9	139
9	On the mechanical behavior of single crystal NiTi shape memory alloys and related polycrystalline phenomenon. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 317, 85-92.	5.6	118
10	The role of intergranular constraint on the stress-induced martensitic transformation in textured polycrystalline NiTi. International Journal of Plasticity, 2000, 16, 1189-1214.	8.8	104
11	Cyclic deformation behavior of single crystal NiTi. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 314, 67-74.	5.6	102
12	Effect of stress state on the stress-induced martensitic transformation in polycrystalline Ni-Ti alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1996, 27, 3066-3073.	2.2	99
13	A revisit to atomistic rationale for slip in shape memory alloys. Progress in Materials Science, 2017, 85, 1-42.	32.8	97
14	Detwinning in NiTi alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2003, 34, 5-13.	2.2	95
15	An energy-based microstructure model to account for fatigue scatter in polycrystals. Journal of the Mechanics and Physics of Solids, 2011, 59, 595-609.	4.8	95
16	Fracture of precipitated NiTi shape memory alloys. International Journal of Fracture, 2001, 109, 189-207.	2.2	94
17	Multiaxial cyclic ratchetting under multiple step loading. International Journal of Plasticity, 1994, 10, 849-870.	8.8	93
18	The Influence of Aging on Critical Transformation Stress Levels and Martensite Start Temperatures in NiTi: Part Iâ€”Aged Microstructure and Micro-Mechanical Modeling. Journal of Engineering Materials and Technology, Transactions of the ASME, 1999, 121, 19-27.	1.4	85

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19	Grain boundary characterization and energetics of superalloys. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 7115-7125.	5.6	85
20	The effect of twinning and slip on the bauschinger effect of hadfield steel single crystals. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2001, 32, 695-706.	2.2	79
21	An Analytical Approach to Elastic-Plastic Stress Analysis of Rolling Contact. Journal of Tribology, 1994, 116, 577-587.	1.9	76
22	Three-Dimensional Elastic-Plastic Stress Analysis of Rolling Contact. Journal of Tribology, 2002, 124, 699-708.	1.9	76
23	Energetics of residual dislocations associated with slipâ€“twin and slipâ€“GBs interactions. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 542, 21-30.	5.6	74
24	Energy barriers associated with slipâ€“twin interactions. Philosophical Magazine, 2011, 91, 1464-1488.	1.6	72
25	The Influence of Aging on Critical Transformation Stress Levels and Martensite Start Temperatures in NiTi: Part IIâ€”Discussion of Experimental Results. Journal of Engineering Materials and Technology, Transactions of the ASME, 1999, 121, 28-37.	1.4	70
26	Plastic strain localization and fatigue micro-crack formation in Hastelloy X. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 561, 507-519.	5.6	70
27	Recent advances in fatigue crack growth modeling. International Journal of Fracture, 1996, 80, 165-192.	2.2	65
28	Guided self-assembly of metallic nanowires and channels. Applied Physics Letters, 2004, 84, 4669-4671.	3.3	65
29	Thermo-Mechanical Fatigue of Mar-M247: Part 1â€”Experiments. Journal of Engineering Materials and Technology, Transactions of the ASME, 1990, 112, 68-79.	1.4	63
30	Superior fatigue crack growth resistance, irreversibility, and fatigue crack growthâ€“microstructure relationship of nanocrystalline alloys. Acta Materialia, 2011, 59, 7340-7355.	7.9	62
31	Rolling contact stress analysis with the application of a new plasticity model. Wear, 1996, 191, 35-44.	3.1	59
32	Micro and Macro Deformation of Single Crystal NiTi. Journal of Engineering Materials and Technology, Transactions of the ASME, 2002, 124, 238-245.	1.4	57
33	Modeling high-temperature stress-strain behavior of cast aluminum alloys. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1999, 30, 133-146.	2.2	56
34	Slip transmission in bcc FeCr polycrystal. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 588, 308-317.	5.6	55
35	Stress-strain response of a cast 319-T6 aluminum under thermomechanical loading. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2000, 31, 139-151.	2.2	45
36	On the interactions between strain accumulation, microstructure, and fatigue crack behavior. International Journal of Fracture, 2013, 180, 223-241.	2.2	45

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37	Comments on the Mroz multiple surface type plasticity models. International Journal of Solids and Structures, 1996, 33, 1053-1068.	2.7	40
38	Hysteresis and deformation mechanisms of transforming FeNiCoTi. Mechanics of Materials, 2006, 38, 538-550.	3.2	37
39	NiTi superelasticity via atomistic simulations. Philosophical Magazine Letters, 2015, 95, 574-586.	1.2	37
40	Deformation of NiTiCu shape memory single crystals in compression. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2001, 32, 477-489.	2.2	36
41	Thermal and Thermomechanical Fatigue of Structural Alloys. , 1996, , 527-556.		36
42	Biaxial testing of nanoscale films on compliant substrates: Fatigue and fracture. Review of Scientific Instruments, 2002, 73, 2963-2970.	1.3	34
43	Investigation of thermal effects on fatigue crack closure using multiscale digital image correlation experiments. International Journal of Fatigue, 2014, 61, 10-20.	5.7	32
44	Predicting fatigue resistance of nano-twinned materials: Part II â€“ Effective threshold stress intensity factor range. International Journal of Fatigue, 2014, 68, 292-301.	5.7	32
45	Thermomechanical fatigue of particulate-reinforced aluminum 2xxx-T4. Metallurgical and Materials Transactions A - Physical Metallurgy and Materials Science, 1991, 22, 697-707.	1.4	29
46	Recent advances in modeling fatigue cracks at microscale in the presence of high density coherent twin interfaces. Current Opinion in Solid State and Materials Science, 2016, 20, 140-150.	11.5	25
47	Plastic zones and fatigue-crack closure under plane-strain double slip. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1996, 27, 3491-3502.	2.2	23
48	A Methodology for Predicting Variability in Microstructurally Short Fatigue Crack Growth Rates. Journal of Engineering Materials and Technology, Transactions of the ASME, 1997, 119, 171-179.	1.4	20
49	Experimental Methodology for Studying Strain Heterogeneity with Microstructural Data from High Temperature Deformation. Experimental Mechanics, 2015, 55, 53-63.	2.0	19
50	Constriction energy in the presence of a solute field. Journal of Applied Physics, 2000, 87, 2194-2203.	2.5	18
51	The Role of Slip Transmission on Plastic Strain accumulationacross Grain Boundaries. Procedia IUTAM, 2012, 4, 169-178.	1.2	18
52	The influence of orientation and aluminium content on the deformation mechanisms of Hadfield steel single crystals. International Journal of Materials Research, 2007, 98, 144-149.	0.3	17
53	Digital image correlation study of mechanical response of nickel superalloy Hastelloy X under thermal and mechanical cycling: Uniaxial and biaxial stress states. Journal of Strain Analysis for Engineering Design, 2014, 49, 233-243.	1.8	17
54	Contact of crack surfaces during fatigue: Part 1. formulation of the model. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1997, 28, 2263-2275.	2.2	15

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55	Contact of crack surfaces during fatigue: Part 2. Simulations. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1997, 28, 2277-2289.	2.2	15
56	Evolving dislocation cores at Twin Boundaries: Theory of CRSS Elevation. International Journal of Plasticity, 2022, 148, 103141.	8.8	15
57	Localisation of plastic strain at the microstructurlal level in Hastelloy X subjected to monotonic, fatigue, and creep loading: the role of grain boundaries and slip transmission. Materials at High Temperatures, 2016, 33, 384-400.	1.0	14
58	Functional fatigue of Ni50.3Ti25Hf24.7 â€“ Heterogeneities and evolution of local transformation strains. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 696, 482-492.	5.6	14
59	Stress-state effects on the stress-induced martensitic transformation of carburized 4320 steels. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 1998, 29, 427-437.	2.2	12
60	Changes in State Variables at Elevated Temperatures. Journal of Engineering Materials and Technology, Transactions of the ASME, 1989, 111, 192-203.	1.4	10
61	Material Behavior Under Thermal Loading. Journal of Pressure Vessel Technology, Transactions of the ASME, 1986, 108, 113-119.	0.6	8
62	The effect of twinning and slip on the bauschinger effect of hadfield steel single crystals. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2001, 32, 695-706.	2.2	5
63	Role of Microstructure in Predicting Fatigue Performance. , 2012, , .		4
64	Observations on Stress-Induced Transformations in NiTi Alloys. Solid Mechanics and Its Applications, 2002, , 103-109.	0.2	4
65	Thermal-Induced Transformation of Retained Austenite in the Simulated Case of a Carburized Steel. Journal of Engineering Materials and Technology, Transactions of the ASME, 1993, 115, 83-88.	1.4	1
66	Infrared thermography videos of the elastocaloric effect for shape memory alloys NiTi and Ni 2 FeGa. Data in Brief, 2015, 5, 7-8.	1.0	1
67	Effects of diffusion and primary creep on intergranular cavitation at high temperatures. International Journal of Fracture, 0, , .	2.2	0