Mathew

List of Publications by Year
in descending order

100 papers	2,764 citations	136740 32 h-index	223531 46 g-index
100 all docs	100 docs citations	100 times ranked	1370 citing authors

#	Article	IF	Citations
1	Improving creep strength of 316L stainless steel by alloying with nitrogen. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 535, 76-83.	2.6	107
2	Comparison of creep rupture behaviour of type 316L(N) austenitic stainless steel joints welded by TIG and activated TIG welding processes. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 6971-6980.	2.6	101
3	Creep rupture behavior of 9Crâ€"1.8Wâ€"0.5Moâ€"VNb (ASME grade 92) ferritic steel weld joint. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 591, 111-120.	2.6	100
4	Development of India-specific RAFM steel through optimization of tungsten and tantalum contents for better combination of impact, tensile, low cycle fatigue and creep properties. Journal of Nuclear Materials, 2013, 439, 41-50.	1.3	97
5	Nuclear energy: A pathway towards mitigation of global warming. Progress in Nuclear Energy, 2022, 143, 104080.	1.3	89
6	Nondestructive determination of tensile properties and fracture toughness of cold worked A36 steel. International Journal of Pressure Vessels and Piping, 1998, 75, 831-840.	1.2	77
7	Microstructural changes in alloy 625 during high temperature creep. Materials Characterization, 2008, 59, 508-513.	1.9	77
8	Thermal creep properties of alloy D9 stainless steel and 316 stainless steel fuel clad tubes. International Journal of Pressure Vessels and Piping, 2008, 85, 866-870.	1.2	63
9	Influence of carbon and nitrogen on the creep properties of type 316 stainless steel at 873 K. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1991, 148, 253-260.	2.6	57
10	Low temperature aging embrittlement of CF-8 stainless steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1999, 269, 186-196.	2.6	57
11	Creep deformation and rupture behaviour of 9Crâ€"1Wâ€"0.2Vâ€"0.06Ta Reduced Activation Ferriticâ€"Martensitic steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 533, 17-25.	2.6	57
12	Ball indentation studies on the effect of aging on mechanical behavior of alloy 625. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1999, 264, 159-166.	2.6	55
13	Creep Deformation and Rupture Behaviour of P92 Steel at 923 K. Procedia Engineering, 2013, 55, 64-69.	1.2	53
14	Influence of strain rate and temperature on tensile stressâ€"strain and work hardening behaviour of 9Crâ€"1Mo ferritic steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 538, 110-117.	2.6	52
15	Finite element analysis of effect of triaxial state of stress on creep cavitation and rupture behaviour of 2.25Crâ€"1Mo steel. International Journal of Mechanical Sciences, 2013, 75, 233-243.	3.6	52
16	Effect of Laves phase on the creep rupture properties of P92 steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 668, 215-223.	2.6	50
17	Characterization of gradients in mechanical properties of SA-533B steel welds using ball indentation. International Journal of Pressure Vessels and Piping, 1999, 76, 361-369.	1.2	49
18	Low cycle fatigue and thermo-mechanical fatigue behavior of modified 9Crâ€"1Mo ferritic steel at elevated temperatures. Journal of Nuclear Materials, 2012, 420, 23-30.	1.3	49

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19	High Temperature Materials for Nuclear Fast Fission and Fusion Reactors and Advanced Fossil Power Plants. Procedia Engineering, 2013, 55, 259-270.	1.2	48
20	High temperature design curves for high nitrogen grades of 316LN stainless steel. Nuclear Engineering and Design, 2010, 240, 1363-1370.	0.8	47
21	Finite element analysis of uniaxial and multiaxial state of stress on creep rupture behaviour of 2.25Crâ€“1Mo steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 563, 68-77.	2.6	46
22	Creep properties of service-exposed Alloy 625 after re-solution annealing treatment. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2004, 372, 327-333.	2.6	44
23	Isothermal and thermomechanical fatigue studies on a modified 9Crâ€“1Mo ferritic martensitic steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 554, 95-104.	2.6	44
24	Tensile flow and work hardening behaviour of 9Crâ€“1Mo ferritic steel in the frame work of Voce relationship. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 6589-6595.	2.6	43
25	Creepâ€“fatigue-oxidation interaction in Grade 91 steel weld joints for high temperature applications. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 8428-8437.	2.6	40
26	Effect of tungsten and tantalum on the low cycle fatigue behavior of reduced activation ferritic/martensitic steels. Fusion Engineering and Design, 2012, 87, 318-324.	1.0	40
27	Influence of dynamic strain aging on the deformation behavior during ratcheting of a 316LN stainless steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 564, 359-368.	2.6	40
28	Dynamic strain aging behavior of modified 9Crâ€“1Mo and reduced activation ferritic martensitic steels under low cycle fatigue. Journal of Nuclear Materials, 2013, 435, 207-213.	1.3	40
29	Applicability of Voce equation for tensile flow and work hardening behaviour of P92 ferritic steel. International Journal of Pressure Vessels and Piping, 2015, 132-133, 1-9.	1.2	40
30	Influence of temperature and post weld heat treatment on tensile stressâ€“strain and work hardening behaviour of modified 9Crâ€“1Mo steel. Materials & Design, 2013, 52, 58-66.	5.1	35
31	Materials development for fast reactor applications. Nuclear Engineering and Design, 2013, 265, 1175-1180.	0.8	35
32	Finite element analysis of type IV cracking in 2.25Crâ€“1Mo steel weldment based on micro-mechanistic approach. Philosophical Magazine, 2011, 91, 3128-3154.	0.7	33
33	Influence of strain rate and temperature on tensile properties and flow behaviour of a reduced activation ferriticâ€“martensitic steel. Journal of Nuclear Materials, 2012, 424, 116-122.	1.3	32
34	Effect of tungsten on tensile properties and flow behaviour of RAFM steel. Journal of Nuclear Materials, 2013, 433, 412-418.	1.3	32
35	Microstructural evolution during creep of 316LN stainless steel multi-pass weld joints. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2014, 607, 138-144.	2.6	31
36	Creep deformation and fracture behaviour of a nitrogen-bearing type 316 stainless steel weld metal. Journal of Nuclear Materials, 1999, 273, 257-264.	1.3	29

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37	Tensile and creep properties of reduced activation ferriticâ€“martensitic steel for fusion energy application. Journal of Nuclear Materials, 2011, 417, 77-80.	1.3	29
38	Nondestructive monitoring of structural materials using automated ball indentation (ABI) technique. Nuclear Engineering and Design, 2004, 228, 81-96.	0.8	27
39	Analysis of elevated temperature flow and work hardening behaviour of service-exposed 2.25Cr-1Mo steel using Voce equation. International Journal of Pressure Vessels and Piping, 2004, 81, 297-301.	1.2	27
40	Effect of microstructure on the critical strain to onset of serrated flow in modified 9Crâ€“1Mo steel. International Journal of Pressure Vessels and Piping, 2012, 89, 162-169.	1.2	27
41	Effect of titanium on the creep deformation behaviour of 14Crâ€“15Niâ€“Ti stainless steel. Journal of Nuclear Materials, 2011, 409, 214-220.	1.3	25
42	Evaluation of the effect of nitrogen on creep properties of 316LN stainless steel from impression creep tests. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 552, 112-118.	2.6	25
43	Influence of strain rate and temperature on tensile properties of 9Crâ€“1Mo ferritic steel. Materials at High Temperatures, 2011, 28, 155-161.	0.5	25
44	Effect of isothermal heat treatment on microstructure and mechanical properties of Reduced Activation Ferritic Martensitic steel. Journal of Nuclear Materials, 2013, 435, 128-136.	1.3	24
45	Development of Stainless Steels in Nuclear Industry: With Emphasis on Sodium Cooled Fast Spectrum Reactors History, Technology and Foresight. Advanced Materials Research, 0, 794, 3-25.	0.3	24
46	Assessing microstructural changes in alloy 625 using ultrasonic waves and correlation with tensile properties. Scripta Materialia, 2001, 45, 1025-1030.	2.6	23
47	Effect of mean stress and stress amplitude on the ratcheting behaviour of 316LN stainless steel under dynamic strain aging regime. Materials at High Temperatures, 2012, 29, 351-358.	0.5	22
48	Development of Structural and Steam Generator Materials for Sodium Cooled Fast Reactors. Energy Procedia, 2011, 7, 250-256.	1.8	19
49	Influence of dynamic sodium environment on the creepâ€“fatigue behaviour of Modified 9Crâ€“1Mo ferriticâ€“martensitic steel. Nuclear Engineering and Design, 2011, 241, 2807-2812.	0.8	19
50	Tensile stressâ€“strain and work hardening behaviour of P9 steel for wrapper application in sodium cooled fast reactors. Journal of Nuclear Materials, 2012, 420, 583-590.	1.3	19
51	Notch creep rupture strength of 316LN SS and its variation with nitrogen content. Nuclear Engineering and Design, 2013, 254, 179-184.	0.8	19
52	Effect of tempering temperature on the stress rupture properties of Grade 92 steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 639, 431-438.	2.6	19
53	Prediction of creep parameters of type 316 stainless steel under service conditions using the Î€-projection concept. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1992, 159, 199-204.	2.6	18
54	Creep rupture strength of activated-TIG welded 316L(N) stainless steel. Journal of Nuclear Materials, 2011, 413, 36-40.	1.3	18

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55	Long-term creep-rupture strength prediction for modified 9Crâ€“1Mo ferritic steel and type 316L(N) austenitic stainless steel. Materials at High Temperatures, 2012, 29, 41-48.	0.5	18
56	Influence of flowing sodium on creep deformation and rupture behaviour of 316L(N) austenitic stainless steel. Journal of Nuclear Materials, 2012, 427, 174-180.	1.3	18
57	Creep behaviour of 14Crâ€“15Niâ€“Ti stainless steel at 923K. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 5167-5174.	2.6	17
58	Microstructural Modifications Due to Tungsten and Tantalum in 9Cr Reduced Activation Ferritic Martensitic Steels on Creep Exposure. Procedia Engineering, 2013, 55, 295-299.	1.2	17
59	Creep Life Prediction of Modified 9Cr-1Mo Steel under Multiaxial State of Stress. Procedia Engineering, 2014, 86, 150-157.	1.2	17
60	Investigation on mechanical properties of P92 steel using ball indentation technique. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 624, 92-101.	2.6	17
61	An assessment of creep strength reduction factors for 316L(N) SS welds. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 456, 28-34.	2.6	16
62	Creep and Low Cycle Fatigue Behaviour of Fast Reactor Structural Materials. Procedia Engineering, 2013, 55, 17-26.	1.2	15
63	Effect of prior cold work on creep properties of a titanium modified austenitic stainless steel. Journal of Nuclear Materials, 2013, 438, 51-57.	1.3	13
64	Applicability of the one-internal-variable Kocksâ€“Mecking approach for tensile flow and work hardening behaviour of modified 9Crâ€“1Mo steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 575, 119-126.	2.6	13
65	Effect of Nitrogen on Evolution of Dislocation Substructure in 316LN SS During Creep. Procedia Engineering, 2013, 55, 36-40.	1.2	13
66	A comparative study of creep rupture behaviour of modified 316L(N) base metal and weldment in air and liquid sodium environments. International Journal of Pressure Vessels and Piping, 1997, 72, 111-118.	1.2	12
67	An anomalous cyclic stress evolution in reduced activation ferritic/martensitic steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 6449-6453.	2.6	12
68	Design of creep machine and creep specimen chamber for carrying out creep tests in flowing liquid sodium. Nuclear Engineering and Design, 2014, 267, 1-9.	0.8	12
69	Time dependent design curves for a high nitrogen grade of 316LN stainless steel for fast reactor applications. Nuclear Engineering and Design, 2013, 265, 949-956.	0.8	11
70	Tensile and Creep Behaviour of Modified 9Cr-1Mo Steel Cladding Tube for Fast Reactor Using Metallic Fuel. Procedia Engineering, 2014, 86, 71-79.	1.2	11
71	The effect of strain rate and temperature on the elevated temperature tensile flow behavior of service-exposed 2.25Cr-1Mo steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 465, 109-115.	2.6	10
72	Creep Behaviour of 316L(N) SS in the Presence of Notch. Procedia Engineering, 2013, 55, 534-541.	1.2	10

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73	Influence of thermo-mechanical treatment on the tensile properties of a modified 14Crâ€“15Ni stainless steel. Journal of Nuclear Materials, 2014, 453, 188-195.	1.3	10
74	A Comparison of Creep Deformation and Rupture Behaviour of 316L(N) Austenitic Stainless Steel in Flowing Sodium and in Air. Procedia Engineering, 2013, 55, 823-829.	1.2	9
75	Nitrogen Enhanced 316LN Austenitic Stainless Steel for Sodium Cooled Fast Reactors. Advanced Materials Research, 2013, 794, 670-680.	0.3	9
76	A Study on the Effect of Tempering Temperature on Tensile Properties of P92 Steel by Automated Ball Indentation Technique. Procedia Engineering, 2014, 86, 910-918.	1.2	9
77	Influence of re-solutionising treatment on the cyclic deformation behaviour of a service-exposed Inconel^{Â®}625 superalloy. Materials at High Temperatures, 2012, 29, 49-53.	0.5	8
78	Development of IFAC-1 SS: An Advanced Austenitic Stainless Steel for Cladding and Wrapper Tube Applications in Sodium-Cooled Fast Reactors. Advanced Materials Research, 0, 794, 749-756.	0.3	8
79	Biaxial creep deformation behavior of Feâ€“14Crâ€“15Niâ€“Ti modified austenitic stainless steel fuel cladding tube for sodium cooled fast reactor. Nuclear Engineering and Design, 2014, 275, 17-22.	0.8	8
80	Thermomechanical Fatigue Behaviour of a Modified 9Cr-1Mo Ferritic-Martensitic Steel. Procedia Engineering, 2013, 55, 199-203.	1.2	7
81	Influence of Nitrogen Content on the Evolution of Creep Damage in 316 LN Stainless Steel. Procedia Engineering, 2014, 86, 58-65.	1.2	7
82	Cyclic softening as a parameter for prediction of remnant creep rupture life of a Indian reduced activation ferriticâ€“martensitic (IN-RAFM) steel subjected to fatigue exposures. Fusion Engineering and Design, 2014, 89, 3159-3163.	1.0	7
83	Tensile properties and flow behavior analysis of modified 9Crâ€“1Mo steel clad tube material. Journal of Nuclear Materials, 2014, 454, 37-45.	1.3	7
84	On the Reliability Assessment of Creep Life for Grade 91 Steel. Procedia Engineering, 2014, 86, 335-341.	1.2	7
85	Kocksâ€“Mecking approach to tensile work hardening behaviour of normalised and tempered and post-weld heat-treated modified 9Crâ€“1Mo steel. Materials at High Temperatures, 2013, 30, 295-305.	0.5	7
86	Application of Impression Creep Technique for Development of Creep Resistant Austenitic Stainless Steel. Procedia Engineering, 2013, 55, 585-590.	1.2	6
87	Improvement in Creep Damage Tolerance of 14Cr-15Ni-Ti Modified Stainless Steel by Addition of Minor Elements. Procedia Engineering, 2013, 55, 58-63.	1.2	6
88	The Effect of Nitrogen Alloying on the Low Cycle Fatigue and Creep-Fatigue Interaction Behavior of 316LN Stainless Steel. Advanced Materials Research, 0, 794, 441-448.	0.3	6
89	Thermomechanical Fatigue Behavior of a Reduced Activation Ferritic-Martensitic Steel. Procedia Engineering, 2014, 86, 88-94.	1.2	6
90	Generation of Constant Life Diagram under Elevated Temperature Ratcheting of 316LN Stainless Steel. High Temperature Materials and Processes, 2016, 35, 361-368.	0.6	6

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91	Effect of Prior Cold Work on Creep Rupture and Tensile Properties of 14Cr-15Ni-Ti Stainless Steel. Procedia Engineering, 2013, 55, 78-81.	1.2	5
92	Impression creep deformation behaviour of 316LN stainless steel. Materials at High Temperatures, 2015, 32, 583-591.	0.5	5
93	Effect of Joining Process on the Accumulation of Creep Deformation and Cavitation Across the Weld Joint of 316L(N) Stainless Steel. Procedia Engineering, 2013, 55, 408-413.	1.2	4
94	Recovery of Creep Properties of Alloy 625 After Long Term Service. Key Engineering Materials, 2000, 171-174, 537-544.	0.4	3
95	Elevated temperature tensile properties of P9 steel towards ferritic steel wrapper development for sodium cooled fast reactors. Journal of Nuclear Materials, 2013, 443, 242-249.	1.3	3
96	Effect of Notch on Creep Behavior of 316L(N) SS Weld Joint. Procedia Engineering, 2013, 55, 526-533.	1.2	3
97	Integrity Assessment of Grade 92 Welded Joint under Creep Condition. Procedia Engineering, 2014, 86, 215-222.	1.2	2
98	An experience with in-service fabrication and inspection of austenitic stainless steel piping in high temperature sodium system. Nuclear Engineering and Design, 2015, 284, 300-307.	0.8	2
99	Mechanical behaviour of stainless steel, ferritic steel welds and weld joints. , 2009, , 153-184.		1
100	Low Cycle Fatigue and Creep-Fatigue Interaction Behaviour of Reduced Activation Ferritic Martensitic (RAFM) Steels with Varying W and Ta Contents. Advanced Materials Research, 0, 891-892, 383-388.	0.3	1