

Wanchuck Woo

List of Publications by Year in descending order

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85
papers

2,373
citations

201575

27
h-index

233338

45
g-index

85
all docs

85
docs citations

85
times ranked

1978
citing authors

#	ARTICLE	IF	CITATIONS
1	Determination of the through-thickness residual stress in thick duplex stainless steel welded plate by wavelength-dependent neutron diffraction method. <i>International Journal of Pressure Vessels and Piping</i> , 2022, 196, 104603.	1.2	16
2	Effect of the Difference in Strength of Hard and Soft Components on the Synergetic Strengthening of Layered Materials. <i>Metals and Materials International</i> , 2021, 27, 376-383.	1.8	11
3	Unravelling thermal history during additive manufacturing of martensitic stainless steel. <i>Journal of Alloys and Compounds</i> , 2021, 857, 157555.	2.8	25
4	Investigation of the unloading yield effect in 7075 Al alloys based on microstructural and digital image correlation analysis. <i>Materials Characterization</i> , 2021, 173, 110963.	1.9	6
5	Multiple deformation scheme in direct energy deposited CoCrNi medium entropy alloy at 210K. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 828, 142059.	2.6	18
6	Effect of hot isostatic pressing on the cryogenic mechanical properties of CrCoNi medium entropy alloy processed by direct energy deposition. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 828, 142110.	2.6	17
7	On plastic anisotropy and deformation history-driven anelasticity of an extruded magnesium alloy. <i>Scripta Materialia</i> , 2020, 176, 36-41.	2.6	14
8	Residual stress and stress fields change around fatigue crack tip: Neutron diffraction measurement and finite element modeling. <i>International Journal of Pressure Vessels and Piping</i> , 2020, 179, 104024.	1.2	10
9	Unstable fracture phenomenon of welded joints with weld residual stresses. <i>Theoretical and Applied Fracture Mechanics</i> , 2020, 109, 102747.	2.1	3
10	A new contour method for rapid evaluation of the cross-sectional residual stress distribution in complex geometries using a 3D scanner. <i>Journal of Mechanical Science and Technology</i> , 2020, 34, 1989-1996.	0.7	3
11	Comparison of dislocation density, twin fault probability, and stacking fault energy between CrCoNi and CrCoNiFe medium entropy alloys deformed at 293 and 140K. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2020, 781, 139224.	2.6	41
12	Correlation of localized residual stresses with ductile fracture toughness using in situ neutron diffraction and finite element modelling. <i>International Journal of Mechanical Sciences</i> , 2019, 160, 332-342.	3.6	14
13	Screw dislocation driven martensitic nucleation: A step toward consilience of deformation scenario in fcc materials. <i>Acta Materialia</i> , 2019, 174, 342-350.	3.8	20
14	Synergetic strengthening of layered steel sheet investigated using an in situ neutron diffraction tensile test. <i>Scientific Reports</i> , 2019, 9, 6829.	1.6	14
15	Multi-scale analyses of constituent phases in a trip-assisted duplex stainless steel by electron backscatter diffraction, in situ neutron diffraction, and energy selective neutron imaging. <i>Scripta Materialia</i> , 2019, 158, 105-109.	2.6	15
16	Welding Residual Stress Effect in Fracture Toughness. <i>Journal of Nanoscience and Nanotechnology</i> , 2019, 19, 2323-2328.	0.9	7
17	Microstructure and mechanical characteristics of multi-layered materials composed of 316L stainless steel and ferritic steel produced by direct energy deposition. <i>Journal of Alloys and Compounds</i> , 2019, 774, 896-907.	2.8	67
18	New type of dispersive sandwich monochromator for very high resolution neutron diffractometry. <i>Physica B: Condensed Matter</i> , 2018, 551, 364-369.	1.3	0

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19	Effects of low-temperature transformation and transformation-induced plasticity on weld residual stresses: Numerical study and neutron diffraction measurement. <i>Materials and Design</i> , 2018, 147, 65-79.	3.3	122
20	The effect of initial stress induced during the steel manufacturing process on the welding residual stress in multi-pass butt welding. <i>International Journal of Naval Architecture and Ocean Engineering</i> , 2018, 10, 129-140.	1.0	14
21	Effect of helix angle on residual stress in the spiral welded oil pipelines: Experimental and finite element modeling. <i>International Journal of Pressure Vessels and Piping</i> , 2018, 168, 233-245.	1.2	22
22	Effect of chemical dilution and the number of weld layers on residual stresses in a multi-pass low-transformation-temperature weld. <i>Materials and Design</i> , 2018, 160, 384-394.	3.3	36
23	Brittle Crack Propagation Path Due to the Effect of Welding Residual Stresses. <i>Journal of Welding and Joining</i> , 2018, 36, 21-27.	0.6	0
24	Molecular dynamics study of fracture toughness and trans-intergranular transition in bi-crystalline graphene. <i>Computational Materials Science</i> , 2017, 129, 323-331.	1.4	24
25	Evaluation of Through-Thickness Residual Stresses by Neutron Diffraction and Finite-Element Method in Thick Weld Plates. <i>Journal of Pressure Vessel Technology, Transactions of the ASME</i> , 2017, 139, .	0.4	36
26	Residual Stress Distribution in a Dissimilar Weld Joint by Experimental and Simulation Study. <i>Journal of Pressure Vessel Technology, Transactions of the ASME</i> , 2017, 139, .	0.4	20
27	Evaluation of the stress-strain relationship of constituent phases in AlSi10Mg alloy produced by selective laser melting using crystal plasticity FEM. <i>Journal of Alloys and Compounds</i> , 2017, 714, 687-697.	2.8	94
28	Weld residual stresses in a thick plate considering back chipping: Neutron diffraction, contour method and finite element simulation study. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 699, 62-70.	2.6	53
29	Neutron diffraction and finite element analysis of the residual stress distribution of copper processed by equal-channel angular pressing. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2017, 682, 691-697.	2.6	14
30	Engineering Applications. <i>Experimental Methods in the Physical Sciences</i> , 2017, , 683-737.	0.1	3
31	Neutron diffraction residual stress analysis during fatigue crack growth retardation of stainless steel. <i>International Journal of Fatigue</i> , 2017, 104, 408-415.	2.8	27
32	Effects of ϵ Precipitation, Dislocation Density, and Grain Size on Stress-Relaxation Properties of INCONEL X-750 Helical Springs. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2017, 48, 3665-3674.	1.1	2
33	A Basic Study on Brittle Crack Propagation Path with Ultra Large Steel Plate Weld Joints. <i>Journal of Welding and Joining</i> , 2017, 35, 15-20.	0.6	5
34	Analysis of the Tensile Behavior of 12% Mn Multi-phase (α + β) TWIP+TRIP Steel by Neutron Diffraction. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2016, 47, 2125-2140.	1.1	32
35	Two-dimensional mapping of residual stresses in a thick dissimilar weld using contour method, deep hole drilling, and neutron diffraction. <i>Journal of Materials Science</i> , 2016, 51, 10620-10631.	1.7	14
36	Stress partitioning behavior of an AlSi10Mg alloy produced by selective laser melting during tensile deformation using in situ neutron diffraction. <i>Journal of Alloys and Compounds</i> , 2016, 686, 281-286.	2.8	79

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37	The effects of grain size on yielding, strain hardening, and mechanical twinning in Fe-18Mn-0.6C-1.5Al twinning-induced plasticity steel. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2016, 652, 212-220.	2.6	96
38	Effect of kinematic stability of the austenite phase on phase transformation behavior and deformation heterogeneity in duplex stainless steel using the crystal plasticity finite element method. <i>International Journal of Plasticity</i> , 2016, 79, 48-67.	4.1	41
39	Comparison of Brazed Residual Stress and Thermal Deformation between X-Type and Pyramidal Lattice Truss Sandwich Structure: Neutron Diffraction Measurement and Simulation Study. <i>High Temperature Materials and Processes</i> , 2016, 35, 567-574.	0.6	3
40	Characteristic and Measurement Technology of Inner Welding Residual Stresses in Thick Steel Structures. <i>Journal of Welding and Joining</i> , 2016, 34, 16-21.	0.6	2
41	Neutron Diffraction Measurement and Numerical Simulation to Study the Effect of Repair Depth on Residual Stress in 316L Stainless Steel Repair Weld. <i>Journal of Pressure Vessel Technology, Transactions of the ASME</i> , 2015, 137, .	0.4	27
42	Dynamic Strain Evolution around a Crack Tip under Steady- and Overloaded-Fatigue Conditions. <i>Metals</i> , 2015, 5, 2109-2118.	1.0	25
43	Effect of Temperature Fluctuation on Creep and Failure Probability for Planar Solid Oxide Fuel Cell. <i>Journal of Fuel Cell Science and Technology</i> , 2015, 12, .	0.8	20
44	Influence of multiple small-angle neutron scattering on diffraction peak broadening in ferritic steel. <i>Journal of Applied Crystallography</i> , 2015, 48, 350-356.	1.9	8
45	Creep damage and crack initiation in P92-BNi2 brazed joint. <i>Materials & Design</i> , 2015, 72, 63-71.	5.1	17
46	Residual stress and crack initiation in laser clad composite layer with Co-based alloy and WC + NiCr. <i>Applied Surface Science</i> , 2015, 345, 286-294.	3.1	96
47	In-situ neutron diffraction studies on high-temperature deformation behavior in a CoCrFeMnNi high entropy alloy. <i>Intermetallics</i> , 2015, 62, 1-6.	1.8	63
48	Comparison of crack-arrest fracture toughness between low and high heat-input thick weld specimens. <i>International Journal of Fracture</i> , 2015, 194, 197-203.	1.1	9
49	Through-thickness distributions of residual stresses in an 80mm thick weld using neutron diffraction and contour method. <i>Journal of Materials Science</i> , 2015, 50, 784-793.	1.7	51
50	Residual stress measurements using neutron diffraction. <i>Journal of Welding and Joining</i> , 2015, 33, 30-34.	0.6	3
51	Fatigue Crack-Tip Stress Mapping Using Neutron Diffraction. <i>Korean Journal of Materials Research</i> , 2015, 25, 690-693.	0.1	1
52	Analysis of the Plasticity-Enhancing Mechanisms in 12%Mn Austeno-ferritic Steel by In Situ Neutron Diffraction. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014, 45, 5823-5828.	1.1	13
53	Residual Stress Distribution in Hard-Facing of Pressure Relief Valve Seat. <i>Journal of Pressure Vessel Technology, Transactions of the ASME</i> , 2014, 136, .	0.4	1
54	Neutron diffraction studies of a double-crystal ($\langle 110 \rangle$, $\langle 111 \rangle$) setting containing a fully asymmetric diffraction geometry of a bent perfect crystal with output beam expansion. <i>Journal of Applied Crystallography</i> , 2014, 47, 599-605.	1.9	8

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55	Tensile deformation behaviors of Zircaloy-4 alloy at ambient and elevated temperatures: In situ neutron diffraction and simulation study. <i>Journal of Nuclear Materials</i> , 2014, 446, 134-141.	1.3	25
56	Residual Stress Analysis in Deep Drawn Twinning Induced Plasticity (TWIP) Steels Using Neutron Diffraction Method. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2014, 45, 1953-1961.	1.1	14
57	Brittle crack-arrest fracture toughness in a high heat-input thick steel weld. <i>International Journal of Fracture</i> , 2014, 185, 179-185.	1.1	25
58	The effect of nitrogen on the stacking fault energy in Fe-15Mn-2Cr-0.6C x N twinning-induced plasticity steels. <i>Scripta Materialia</i> , 2014, 92, 23-26.	2.6	39
59	Small-angle neutron scattering analysis of Mn-C clusters in high-manganese 18Mn-0.6C steel. <i>Materials Characterization</i> , 2014, 96, 40-45.	1.9	13
60	Using short-time creep relaxation effect to decrease the residual stress in the bonded compliant seal of planar solid oxide fuel cell - A finite element simulation. <i>Journal of Power Sources</i> , 2014, 255, 108-115.	4.0	13
61	Neutron diffraction and finite element modeling to study the weld residual stress relaxation induced by cutting. <i>Materials & Design</i> , 2013, 51, 415-420.	5.1	42
62	Some properties of the neutron monochromatic beams obtained by multiple Bragg reflections realized in bent perfect single crystals. <i>Journal of Applied Crystallography</i> , 2013, 46, 128-134.	1.9	5
63	Experimental to study the effect of multiple weld-repairs on microstructure, hardness and residual stress for a stainless steel clad plate. <i>Materials & Design</i> , 2013, 51, 1052-1059.	5.1	51
64	Evaluations of stress-free lattice spacings and residual stresses in a quenched carbon steel cylinder using neutron diffraction. <i>Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2013, 565, 392-395.	2.6	1
65	Residual stress determination in thick welded steel plates. <i>Journal of Physics: Conference Series</i> , 2012, 340, 012025.	0.3	5
66	Control of Welding Residual Stress and Deformation of the Butt Welded Ultrathick Tube-Sheet: Effect of Applied Load. <i>Journal of Pressure Vessel Technology, Transactions of the ASME</i> , 2012, 134, .	0.4	10
67	Residual stress determination in a thick ferritic steel weld plate using neutron diffraction. <i>Journal of Materials Science</i> , 2012, 47, 5617-5623.	1.7	22
68	Three-Orthogonal-Direction Stress Mapping around a Fatigue-Crack Tip Using Neutron Diffraction. <i>Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science</i> , 2012, 43, 2785-2791.	1.1	10
69	Using heat sink technology to decrease residual stress in 316L stainless steel welding joint: Finite element simulation. <i>International Journal of Pressure Vessels and Piping</i> , 2012, 92, 56-62.	1.2	68
70	Neutron diffraction analysis of stacking fault energy in Fe-18Mn-2Al-0.6C twinning-induced plasticity steels. <i>Materials Letters</i> , 2012, 76, 93-95.	1.3	36
71	Three-dimensional simulation to study the influence of foil thickness on residual stress in the bonded compliant seal design of planar solid oxide fuel cell. <i>Journal of Power Sources</i> , 2012, 209, 65-71.	4.0	14
72	A STUDY OF RESIDUAL STRESS IN THE REPAIR WELD OF STAINLESS STEEL CLAD PLATE BY NEUTRON DIFFRACTION MEASUREMENT AND FINITE ELEMENT METHOD. <i>Jinshu Xuebao/Acta Metallurgica Sinica</i> , 2012, 48, 1525.	0.3	3

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73	Residual stress determination in a dissimilar weld overlay pipe by neutron diffraction. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 8021-8027.	2.6	40
74	Effect of Al ₂ O ₃ film on thermal stress in the bonded compliant seal design of planar solid oxide fuel cell. Journal of Power Sources, 2011, 196, 10616-10624.	4.0	10
75	Neutron diffraction measurements of residual stresses in a 50mm thick weld. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 4120-4124.	2.6	51
76	Effect of wavelength-dependent attenuation on neutron diffraction stress measurements at depth in steels. Journal of Applied Crystallography, 2011, 44, 747-754.	1.9	44
77	Residual Stress Measurements Through the Thickness of the Dissimilar Weld Pipe Using Neutron Diffraction. , 2011, , .		0
78	X-Ray and Neutron Diffraction Measurements of Dislocation Density and Subgrain Size in a Friction-Stir-Welded Aluminum Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2010, 41, 1210-1216.	1.1	82
79	Application of infrared imaging for quality inspection in resistance spot welds. , 2009, , .		9
80	Prediction of hardness minimum locations during natural aging in an aluminum alloy 6061-T6 friction stir weld. Journal of Materials Science, 2009, 44, 6302-6309.	1.7	29
81	Grain structure and dislocation density measurements in a friction-stir welded aluminum alloy using X-ray peak profile analysis. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 498, 308-313.	2.6	137
82	Influence of the Tool Pin and Shoulder on Microstructure and Natural Aging Kinetics in a Friction-Stir-Processed 6061-T6 Aluminum Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2007, 38, 69-76.	1.1	80
83	Angular distortion and through-thickness residual stress distribution in the friction-stir processed 6061-T6 aluminum alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2006, 437, 64-69.	2.6	64
84	In situ neutron diffraction measurement of transient temperature and stress fields in a thin plate. Applied Physics Letters, 2006, 88, 261903.	1.5	20
85	Deconvoluting the influences of heat and plastic deformation on internal strains generated by friction stir processing. Applied Physics Letters, 2005, 86, 231902.	1.5	29