

# Herwig Mayer

## List of Publications by Year in descending order

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96  
papers

3,612  
citations

117625

34  
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149698

56  
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98  
all docs

98  
docs citations

98  
times ranked

1841  
citing authors

#	ARTICLE	IF	CITATIONS
1	Influence of porosity on the fatigue limit of die cast magnesium and aluminium alloys. International Journal of Fatigue, 2003, 25, 245-256.	5.7	333
2	Soil aggregation, aggregate stability, organic carbon and nitrogen in different soil aggregate fractions under forest and shrub vegetation on the Loess Plateau, China. Catena, 2010, 81, 226-233.	5.0	226
3	Fatigue crack growth and threshold measurements at very high frequencies. International Materials Reviews, 1999, 44, 1-34.	19.3	165
4	Recent developments in ultrasonic fatigue. Fatigue and Fracture of Engineering Materials and Structures, 2016, 39, 3-29.	3.4	123
5	Very high cycle fatigue properties of bainitic high carbon chromium steel. International Journal of Fatigue, 2009, 31, 242-249.	5.7	116
6	Fatigue and fatigue crack growth of aluminium alloys at very high numbers of cycles. International Journal of Fatigue, 2001, 23, 231-237.	5.7	112
7	Effects of microstructure and temperature on fatigue behavior of E319-T7 cast aluminum alloy in very long life cycles. International Journal of Fatigue, 2006, 28, 1566-1571.	5.7	106
8	Fatigue strength of spring steel under axial and torsional loading in the very high cycle regime. International Journal of Fatigue, 2008, 30, 2057-2063.	5.7	91
9	Ultrasonic torsion and tension-compression fatigue testing: Measuring principles and investigations on 2024-T351 aluminium alloy. International Journal of Fatigue, 2006, 28, 1446-1455.	5.7	88
10	Influence of loading frequency on high cycle fatigue properties of b.c.c. and h.c.p. metals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 308, 143-152.	5.6	86
11	Influence of loading frequency on the high cycle fatigue properties of AlZnMgCu1.5 aluminium alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2001, 314, 48-54.	5.6	81
12	Effects of surface treatments on high cycle corrosion fatigue of metallic implant materials. International Journal of Fatigue, 2000, 22, 873-886.	5.7	78
13	Application of ultrasound for fatigue testing of lightweight alloys. Fatigue and Fracture of Engineering Materials and Structures, 1999, 22, 591-599.	3.4	68
14	Effect of small defects on the fatigue strength of martensitic stainless steels. International Journal of Fatigue, 2019, 127, 362-375.	5.7	64
15	Near threshold fatigue crack growth in aluminium alloys at low and ultrasonic frequency: Influences of specimen thickness, strain rate, slip behaviour and air humidity. International Journal of Fatigue, 2003, 25, 397-411.	5.7	63
16	Very high cycle fatigue properties of bainitic high carbon chromium steel under variable amplitude conditions. International Journal of Fatigue, 2009, 31, 1300-1308.	5.7	63
17	Demonstration of an endurance limit in cast 319 aluminum. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2003, 34, 33-41.	2.2	62
18	Fatigue crack growth and threshold measurements at very high frequencies. International Materials Reviews, 1999, 44, 1-34.	19.3	61

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19	Endurance limit and threshold stress intensity of die cast magnesium and aluminium alloys at elevated temperatures. International Journal of Fatigue, 2005, 27, 1076-1088.	5.7	56
20	High frequency method for torsion fatigue testing. Ultrasonics, 1993, 31, 275-280.	3.9	54
21	Fatigue properties of aluminium foams at high numbers of cycles. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2000, 292, 1-7.	5.6	53
22	Very high cycle fatigue of normalized carbon steels. International Journal of Fatigue, 2006, 28, 1583-1589.	5.7	52
23	The influence of air humidity on near-threshold fatigue crack growth of 2024-T3 aluminum alloy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 1991, 147, 45-54.	5.6	51
24	Lifetime measurements for random loading in the very high cycle fatigue range. International Journal of Fatigue, 1986, 8, 195-200.	5.7	50
25	Cyclic torsion very high cycle fatigue of VDSiCr spring steel at different load ratios. International Journal of Fatigue, 2015, 70, 322-327.	5.7	48
26	Fatigue and fatigue crack propagation in AlSi7Mg cast alloys under in-service loading conditions. International Journal of Fatigue, 1995, 17, 149-155.	5.7	47
27	Fatigue of 2024-T351 aluminium alloy at different load ratios up to 1010 cycles. International Journal of Fatigue, 2013, 57, 113-119.	5.7	47
28	Influence of inclusion type on the very high cycle fatigue properties of 18Ni maraging steel. Journal of Materials Science, 2017, 52, 5954-5967.	3.7	43
29	Influence of atmospheric moisture on slow fatigue crack growth at ultrasonic frequency in aluminium and magnesium alloys. Fatigue and Fracture of Engineering Materials and Structures, 2002, 25, 795-804.	3.4	42
30	Constant and variable amplitude ultrasonic fatigue of 2024-T351 aluminium alloy at different load ratios. Ultrasonics, 2013, 53, 1425-1432.	3.9	42
31	Near threshold fatigue crack growth at positive load ratio in aluminium alloys at low and ultrasonic frequency: influences of strain rate, slip behaviour and air humidity. International Journal of Fatigue, 2004, 26, 27-38.	5.7	40
32	In-service loading of AlSi11 aluminium cast alloy in the very high cycle regime. International Journal of Fatigue, 1993, 15, 311-316.	5.7	39
33	Mean stress sensitivity and crack initiation mechanisms of spring steel for torsional and axial VHCF loading. International Journal of Fatigue, 2016, 93, 309-317.	5.7	38
34	Very high cycle regime fatigue of thin walled tubes made from austenitic stainless steel. Fatigue and Fracture of Engineering Materials and Structures, 2002, 25, 837-844.	3.4	34
35	Investigation of the high and very high cycle fatigue behaviour of continuous fibre reinforced plastics by conventional and ultrasonic fatigue testing. Composites Science and Technology, 2017, 141, 130-136.	7.8	34
36	Influence of cyclic loads below endurance limit or threshold stress intensity on fatigue damage in cast aluminium alloy 319-T7. International Journal of Fatigue, 2005, 27, 129-141.	5.7	33

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37	INFLUENCE OF TRANSFORMATION-INDUCED CRACK CLOSURE ON SLOW FATIGUE CRACK GROWTH UNDER VARIABLE AMPLITUDE LOADING. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 1995, 18, 935-948.	3.4	32
38	VHCF properties of nitrided 18Ni maraging steel thin sheets with different Co and Ti content. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2015, 38, 518-527.	3.4	32
39	Inclusion initiated fracture in spring steel under axial and torsion very high cycle fatigue loading at different load ratios. <i>International Journal of Fatigue</i> , 2020, 134, 105525.	5.7	31
40	Fatigue damage of low amplitude cycles in low carbon steel. <i>Journal of Materials Science</i> , 2009, 44, 4919-4929.	3.7	29
41	Near-threshold fatigue crack growth properties of wrought magnesium alloy <scp>AZ61</scp> in ambient air, dry air, and vacuum. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2018, 41, 1938-1947.	3.4	27
42	Fatigue properties of Al-1Mg-0.6Si foam at low and ultrasonic frequencies. <i>International Journal of Fatigue</i> , 2001, 23, 565-573.	5.7	26
43	Cyclic plastic deformation of tantalum and niobium at very high numbers of cycles. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2002, 325, 520-524.	5.6	26
44	Inclusion initiated fracture under cyclic torsion very high cycle fatigue at different load ratios. <i>International Journal of Fatigue</i> , 2019, 122, 199-207.	5.7	26
45	Fatigue properties of Al <sub>2</sub> O <sub>3</sub> -particle-reinforced 6061 aluminium alloy in the high-cycle regime. <i>International Journal of Fatigue</i> , 1996, 18, 475-481.	5.7	25
46	NEAR-THRESHOLD FATIGUE CRACK GROWTH IN Al <sub>2</sub> O <sub>3</sub> PARTICLE REINFORCED 6061 ALUMINIUM ALLOY. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 1995, 18, 477-487.	3.4	23
47	Korrosionsermüdung von Aluminium- und Magnesium-Cu-Legierungen. <i>Materials and Corrosion - Werkstoffe Und Korrosion</i> , 1999, 50, 81-89.	1.5	23
48	Ultrasonic-assisted cutting of wood. <i>Journal of Materials Processing Technology</i> , 2005, 170, 42-49.	6.3	23
49	Very high cycle fatigue of nitrided 18Ni maraging steel sheet. <i>International Journal of Fatigue</i> , 2014, 64, 140-146.	5.7	23
50	Constant and variable amplitude fatigue testing of aluminum alloy 2024-T351 with ultrasonic and servo-hydraulic equipment. <i>International Journal of Fatigue</i> , 2016, 91, 363-372.	5.7	22
51	Microwave testing of moist and oven-dry wood to evaluate grain angle, density, moisture content and the dielectric constant of spruce from 8GHz to 12GHz. <i>European Journal of Wood and Wood Products</i> , 2018, 76, 89-103.	2.9	21
52	CRACK FACE INTERACTIONS AND NEAR-THRESHOLD FATIGUE CRACK GROWTH. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 1993, 16, 71-83.	3.4	20
53	FEM modelling of stress intensity factors for fatigue crack growth at ultrasonic frequencies. <i>Engineering Fracture Mechanics</i> , 1993, 45, 487-495.	4.3	20
54	Influence of cyclic frequency on strain localization and cyclic deformation in fatigue. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 1994, 187, 23-35.	5.6	20

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55	Very high cycle fatigue testing of concrete using ultrasonic cycling. <i>Materialpruefung/Materials Testing</i> , 2017, 59, 438-444.	2.2	19
56	Variable amplitude very high cycle fatigue of 17-4PH steel with a stepwise S-N curve. <i>International Journal of Fatigue</i> , 2021, 142, 105963.	5.7	19
57	Mean stress sensitivity of spring steel in the very high cycle fatigue regime. <i>Journal of Materials Science</i> , 2015, 50, 5514-5523.	3.7	18
58	Very high cycle fatigue of VDSiCr spring steel under torsional and axial loading. <i>Materialwissenschaft Und Werkstofftechnik</i> , 2013, 44, 282-289.	0.9	17
59	Influence of small defects and nonmetallic inclusions on the high and very high cycle fatigue strength of an ultrahigh strength steel. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2021, 44, 2990-3007.	3.4	16
60	Fatigue properties of spray formed hypereutectic aluminium silicon alloy DISPALÂ® S232 at high and very high numbers of cycles. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2012, 538, 327-334.	5.6	15
61	Usability of Ultrasonic Frequency Testing for Rapid Generation of High and Very High Cycle Fatigue Data. <i>Materials</i> , 2021, 14, 2245.	2.9	15
62	Variable amplitude loading in the very high-cycle fatigue regime. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2002, 25, 887-896.	3.4	14
63	Fatigue behaviour of graphite and interpenetrating graphite-aluminium composite up to 109 load cycles. <i>Carbon</i> , 2006, 44, 1801-1807.	10.3	14
64	Variable amplitude loading of spray-formed hypereutectic aluminium silicon alloy DISPALÂ® S232 in the VHCF regime. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2014, 37, 945-957.	3.4	14
65	Soil aggregate breakdown and carbon release along a chronosequence of recovering landslide scars in a subtropical watershed. <i>Catena</i> , 2018, 165, 530-536.	5.0	14
66	Influence of cycling frequency and testing volume on the VHCF properties of 18Ni maraging steel. <i>Engineering Fracture Mechanics</i> , 2019, 216, 106525.	4.3	14
67	Influence of load ratio on torsion very high cycle fatigue of high strength spring steel in the presence of detrimental defects. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 2021, 44, 2356-2371.	3.4	14
68	Effect of microstructure and cycling frequency on the torsional fatigue properties of 17-4PH stainless steel. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2021, 801, 140481.	5.6	13
69	FATIGUE CRACK GROWTH OF Al 2024-T3 UNDER LOW AMPLITUDE TWO-STEP LOADING. <i>Fatigue and Fracture of Engineering Materials and Structures</i> , 1992, 15, 265-275.	3.4	12
70	Variable amplitude loading of Al 2024-T351 at different load ratios using ultrasonic equipment. <i>International Journal of Fatigue</i> , 2014, 60, 34-42.	5.7	10
71	Influence of small defects on the uniaxial and torsional fatigue strength of 17-4PH stainless steel. <i>Procedia Structural Integrity</i> , 2017, 7, 492-496.	0.8	10
72	Very high cycle fatigue of wrought magnesium alloy AZ61. <i>Procedia Structural Integrity</i> , 2016, 2, 1047-1054.	0.8	9

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73	Fatigue testing of thin CoNiCr wire up to 1010cycles. International Journal of Fatigue, 2017, 98, 92-100.	5.7	9
74	High Speed In Situ Synchrotron Observation of Cyclic Deformation and Phase Transformation of Superelastic Nitinol at Ultrasonic Frequency. Experimental Mechanics, 2020, 60, 317-328.	2.0	9
75	Fatigue crack propagation in the threshold regime after rapid load reduction. Engineering Fracture Mechanics, 1991, 40, 1035-1043.	4.3	8
76	Study of soil aggregate breakdown dynamics under low dispersive ultrasonic energies with sedimentation and X-ray attenuation. International Agrophysics, 2015, 29, 501-508.	1.7	8
77	Calibration of ultrasonic power output in water, ethanol and sodium polytungstate. International Agrophysics, 2017, 31, 583-588.	1.7	8
78	Ultrasonic fatigue testing of concrete. Ultrasonics, 2021, 116, 106521.	3.9	8
79	Langsames Ermüdungsrisswachstum in Aluminium- und Magnesiumgusslegierungen in Raumluft und in Vakuum. Materialwissenschaft Und Werkstofftechnik, 2002, 33, 15-23.	0.9	7
80	Beitrag niedriger Lastamplituden zur Ermüdungsschädigung von 0,15â€% Stahl. Materialwissenschaft Und Werkstofftechnik, 2007, 38, 581-590.	0.9	7
81	Non-destructive evaluation of grain angle, moisture content and density of spruce with microwaves. European Journal of Wood and Wood Products, 2013, 71, 779-786.	2.9	7
82	Surface properties of wood and MDF after ultrasonic-assisted cutting. Journal of Materials Science, 2005, 40, 4325-4332.	3.7	6
83	Variable Amplitude Testing of 2024-T351 Aluminum Alloy Using Ultrasonic and Servo-hydraulic Fatigue Testing Equipment. Procedia Engineering, 2015, 101, 169-176.	1.2	5
84	Mean stress sensitivity of an ultrahigh strength steel under uniaxial and torsional high and very high cycle fatigue loading. Fatigue and Fracture of Engineering Materials and Structures, 2022, 45, 3361-3377.	3.4	5
85	Ultrasonic fatigue testing of thin MP35N alloy wire. Procedia Structural Integrity, 2016, 2, 1039-1046.	0.8	4
86	Fatigue properties of wood at different load ratios tested at 50â€..Hz and 20â€..kHz. Materialwissenschaft Und Werkstofftechnik, 2022, 53, 344-354.	0.9	4
87	Einfluss von Gussfehlern auf die Dauerfestigkeit von Aluminium- und Magnesiumgusslegierungen. Materialwissenschaft Und Werkstofftechnik, 2002, 33, 117-127.	0.9	3
88	Effects of Non-Metallic Inclusions and Mean Stress on Axial and Torsion Very High Cycle Fatigue of SWOSC-V Spring Steel. Metals, 2022, 12, 1113.	2.3	3
89	High Cycle Fatigue Behavior of Normalized 0.15% C Steel under Tension-Compression and Torsion Loading. Key Engineering Materials, 2008, 378-379, 29-38.	0.4	2
90	Measurement of soil aggregate stability using low intensity ultrasonic vibration. Spanish Journal of Soil Science, 0, 1, .	0.0	2

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91	Determination of dissolved organic carbon in soils with UV spectroscopy, ultrasonic dispersion pre-treatment and separation with size exclusion chromatography .. Spanish Journal of Soil Science, 0, 4, .	0.0	2
92	Slow fatigue crack growth in 2024-T3 and Ti-6Al-4V at low and ultrasonic frequency. International Journal of Materials Research, 2022, 94, 539-546.	0.3	1
93	Ermüdungsverhalten und Dauerfestigkeit von Graphit und Aluminium in infiltriertem Graphit. Materialwissenschaft Und Werkstofftechnik, 2006, 37, 264-271.	0.9	0
94	Fatigue strength of VDSiCr spring steel under cyclic torsion and cyclic axial loading at different load ratios in the VHCF regime. MATEC Web of Conferences, 2014, 12, 01003.	0.2	0
95	VHCF of spray formed hypereutectic aluminium silicon alloy. MATEC Web of Conferences, 2014, 12, 10002.	0.2	0
96	Very High Cycle Fatigue Behaviour under Cyclic Torsion Loading. , 0, , 1123-1124.		0