Jens Gibmeier

List of Publications by Year
in descending order

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110 papers	1,602 citations	430874 18 h-index	345221 36 g-index
111 all docs	111 docs citations	111 times ranked	1523 citing authors

#	Article	IF	Citations
1	Study on micro texturing of uncoated cemented carbide cutting tools for wear improvement and built-up edge stabilisation. Journal of Materials Processing Technology, 2015, 215, 62-70.	6.3	220
2	The materials science synchrotron beamline EDDI for energy-dispersive diffraction analysis. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2007, 578, 23-33.	1.6	194
3	X-ray tensor tomography. Europhysics Letters, 2014, 105, 38002.	2.0	81
4	Process dependent porosity and the influence of shot peening on porosity morphology regarding selective laser melted AlSi10Mg parts. Additive Manufacturing, 2018, 20, 77-89.	3.0	80
5	Internal load transfer in a metal matrix composite with a three-dimensional interpenetrating structure. Acta Materialia, 2011, 59, 1424-1435.	7.9	66
6	Detailed analysis of microstructure of intentionally formed built-up edges for improving wear behaviour in dry metal cutting process of steel. Wear, 2014, 311, 21-30.	3.1	58
7	Fatigue Performance of Medical Ti6Al4V Alloy after Mechanical Surface Treatments. PLoS ONE, 2015, 10, e0121963.	2.5	49
8	Effect of multiple passes treatment in waterjet peening on fatigue performance. Applied Surface Science, 2016, 388, 468-474.	6.1	41
9	In situ Study of Internal Load Transfer in a Novel Metal/Ceramic Composite Exhibiting Lamellar Microstructure Using Energy Dispersive Synchrotron Xâ€ray Diffraction. Advanced Engineering Materials, 2009, 11, 471-477.	3.5	37
10	In situ study of structural integrity of low transformation temperature (LTT)-welds. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2011, 528, 5566-5575.	5.6	33
11	Review on study of internal load transfer in metal matrix composites using diffraction techniques. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 840, 142973.	5.6	33
12	Experiments and Material Parameter Identification Using Finite Elements. Uniaxial Tests and Validation Using Instrumented Indentation Tests. Experimental Mechanics, 2006, 46, 5-18.	2.0	27
13	Plastic Deformation during Application of the Hole-Drilling Method. Materials Science Forum, 2000, 347-349, 131-137.	0.3	26
14	Determination of Residual Stresses in Low Transformation Temperature (LTT -) Weld Metals using X-ray and High Energy Synchrotron Radiation. Welding in the World, Le Soudage Dans Le Monde, 2009, 53, 3-16.	2.5	26
15	Internal load transfer and damage evolution in a 3D interpenetrating metal/ceramic composite. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 551, 272-279.	5.6	25
16	Residual Stresses in Multilayer Welds with Different Martensitic Transformation Temperatures Analyzed by High-Energy Synchrotron Diffraction. Materials Science Forum, 0, 681, 37-42.	0.3	24
17	Numerical study of internal load transfer in metal/ceramic composites based on freeze-cast ceramic preforms and experimental validation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 585, 10-16.	5.6	24
18	Vacuum plasma spraying of functionally graded tungsten/EUROFER97 coatings for fusion applications. Fusion Engineering and Design, 2018, 133, 148-156.	1.9	24

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19	<i>In Situ</i> Observation of Phase Transformations during Welding of Low Transformation Temperature Filler Material. Materials Science Forum, 0, 638-642, 3769-3774.	0.3	21
20	Internal load transfer in an interpenetrating metal/ceramic composite material studied using energy dispersive synchrotron X-ray diffraction. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 753, 247-252.	5.6	21
21	Development of Functionally Graded Tungsten/EUROFER Coating System for First Wall Application. Fusion Science and Technology, 2015, 68, 578-581.	1.1	18
22	Incremental Hole Drilling for Residual Stress Analysis of Thin Walled Components with Regard to Plasticity Effects. Experimental Mechanics, 2017, 57, 1457-1467.	2.0	17
23	Spatially resolved temporal stress evolution during laser surface spot hardening of steel. Journal of Materials Processing Technology, 2017, 239, 326-335.	6.3	16
24	On the capability of revealing the pseudosymmetry of the chalcopyriteâ€type crystal structure. Crystal Research and Technology, 2008, 43, 234-239.	1.3	15
25	Investigations on the Initial Stress Evolution During Atmospheric Plasma Spraying of YSZ by In Situ Curvature Measurement. Journal of Thermal Spray Technology, 2016, 25, 672-683.	3.1	15
26	Local Stress-Ratio Criterion for Incremental Hole-Drilling Measurements of Shot-Peening Stresses. Journal of Engineering Materials and Technology, Transactions of the ASME, 2006, 128, 193-201.	1.4	13
27	Residual Stress Analysis on Thick Film Systems by the Incremental Hole-Drilling Method â€“ Simulation and Experimental Results. Experimental Mechanics, 2013, 53, 965-976.	2.0	13
28	Incremental Hole Drilling for Residual Stress Analysis of Strongly Textured Material States â€“ A New Calibration Approach. Experimental Mechanics, 2016, 56, 369-380.	2.0	13
29	Electrocautery Damage Can Reduce Implant Fatigue Strength. Journal of Bone and Joint Surgery - Series A, 2019, 101, 868-878.	3.0	13
30	Residual stress in clinched joints of metals. Applied Physics A: Materials Science and Processing, 2002, 74, s1440-s1442.	2.3	12
31	Local Residual Stress Distributions Induced by Repeated Austenite-Martensite Transformation via Laser Surface Hardening of Steel AISI 4140. Materials Science Forum, 0, 681, 321-326.	0.3	12
32	Fast in situ phase and stress analysis during laser surface treatment: A synchrotron x-ray diffraction approach. Review of Scientific Instruments, 2012, 83, 115101.	1.3	12
33	Corrosion Behavior of Surface-Treated Metallic Implant Materials. Materials, 2020, 13, 2011.	2.9	12
34	Time- and temperature-resolved synchrotron X-ray diffraction: observation of phase transformation and strain evolution in novel low temperature transformation weld filler materials. Journal of Strain Analysis for Engineering Design, 2011, 46, 563-579.	1.8	11
35	Residual Stress in Steel Fusion Welds Joined Using Low Transformation Temperature (LTT) Filler Material. Materials Science Forum, 0, 768-769, 620-627.	0.3	11
36	Real time monitoring of phase transformation and strain evolution in LTT weld filler material using EDXRD. Journal of Materials Processing Technology, 2014, 214, 2739-2747.	6.3	11

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37	Influence of shot peening on the mechanical properties of bulk amorphous Vitreloy 105. Surface Engineering, 2017, 33, 721-730.	2.2	11
38	Minimization of spurious strains by using a Si bent-perfect-crystal monochromator: neutron surface strain scanning of a shot-peened sample. Measurement Science and Technology, 2011, 22, 065705.	2.6	10
39	In-situ load analysis in multi-run welding using LTT filler materials. Welding in the World, Le Soudage Dans Le Monde, 2016, 60, 1159-1168.	2.5	10
40	Phase-specific residual stresses induced by deep drawing of lean duplex steel: measurement vs. simulation. Production Engineering, 2019, 13, 227-237.	2.3	10
41	Laser Surface Hardening of Steel: Effect of Process Atmosphere on the Microstructure and Residual Stresses. Materials Science Forum, 2013, 772, 149-153.	0.3	9
42	Residual stresses of LTT welds in large-scale components. Welding in the World, Le Soudage Dans Le Monde, 2017, 61, 1089-1097.	2.5	9
43	20 Hz synchrotron X-ray diffraction analysis in laser-pulsed WC-Co hard metal reveals oscillatory stresses and reversible composite plastification. International Journal of Refractory Metals and Hard Materials, 2019, 82, 121-128.	3.8	9
44	Application of the Incremental Hole-Drilling Method on Thick Film Systemsâ€"An Approximate Evaluation Approach. Experimental Mechanics, 2015, 55, 499-507.	2.0	8
45	Treatment of spatial resolution effects in neutron residual strain scanning. Physica B: Condensed Matter, 2018, 551, 468-471.	2.7	8
46	Effect of Applied and Residual Stresses on the Analysis of Mechanical Properties by Means of Instrumented Indentation Techniques. Materials Science Forum, 2005, 490-491, 454-459.	0.3	7
47	In situ analysis of the strain evolution during welding using low transformation temperature filler materials. Science and Technology of Welding and Joining, 2019, 24, 243-255.	3.1	7
48	Phase-Specific Strain Hardening and Load Partitioning of Cold Rolled Duplex Stainless Steel X2CrNiN23-4. Crystals, 2020, 10, 976.	2.2	7
49	Determination of Temperature-Dependent Elastic Constants of Steel AISI 4140 by Use of In Situ X-ray Dilatometry Experiments. Materials, 2020, 13, 2378.	2.9	7
50	Surface- and volume-based investigation on influences of different Varestraint testing parameters and chemical compositions on solidification cracking in LTT filler metals. Welding in the World, Le Soudage Dans Le Monde, 2020, 64, 913-923.	2.5	7
51	Residual Stress Analysis of Thick Film Systems by the Incremental Hole-Drilling Method*. HTM - Journal of Heat Treatment and Materials, 2014, 69, 71-79.	0.2	7
52	Experimental and Simulative Studies on Residual Stress Formation for Laser-Beam Surface Hardening*. HTM - Journal of Heat Treatment and Materials, 2019, 74, 23-35.	0.2	7
53	Round Robin Test on the Determination of Residual Stress Depth Distributions by X-ray Diffraction. Materials Science Forum, 2002, 404-407, 659-664.	0.3	6
54	In Situ X-Ray Diffraction Study of Load Partitioning and Microyielding for the Super Duplex Stainless Steel SAF2507 (UNS S32750). Materials Science Forum, 2006, 524-525, 847-852.	0.3	6

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55	Influence of the Interfacial Roughness on Residual Stress Analysis of Thick Film Systems by Incremental Hole Drilling. Materials Science Forum, 0, 768-769, 136-143.	0.3	6
56	Study of stability of microstructure and residual strain after thermal loading of plasma sprayed YSZ by through surface neutron scanning. Physica B: Condensed Matter, 2018, 551, 69-78.	2.7	6
57	Neutron and X-ray Diffraction Analysis of Macro and Phase-Specific Micro Residual Stresses in Deep Rolled Duplex Stainless Steels. Materials, 2021, 14, 1854.	2.9	6
58	Residual Stress Distributions around Clinched Joints. Materials Science Forum, 2002, 404-407, 617-622.	0.3	5
59	Metal-ceramic-composite casting of complex micro components. Microsystem Technologies, 2013, 19, 159-165.	2.0	5
60	Neutron Residual Strain Surface Scans - Experimental Results and Monte Carlo Simulations. Materials Science Forum, 0, 768-769, 52-59.	0.3	5
61	Phase Transformation-Induced Changes in Microstructure and Residual Stresses in Thermally Sprayed MnCoFeO4 Protective Coatings. Journal of Thermal Spray Technology, 2020, 29, 1242-1255.	3.1	5
62	Influence of Shot Peening on the Isothermal Fatigue Behavior of the Gamma Titanium Aluminide Ti-48Al-2Cr-2Nb at 750 Â°C. Metals, 2021, 11, 1083.	2.3	5
63	<i>In Situ</i> EDXRD Study of MAG-Welding Using LTT Weld Filler Materials under Structural Restraint. Materials Science Forum, 0, 905, 107-113.	0.3	5
64	About the Effect of Residual Stresses on Microhardness Readings. Materials Science Forum, 2002, 404-407, 349-354.	0.3	4
65	Determination of Real Space Residual Stress Distributions Ïƒ_{ij}(z) of Surface Treated Materials with Diffraction Methods Part I: Angle-Dispersive Approach. Materials Science Forum, 2006, 524-525, 31-36.	0.3	4
66	S141 Residual Stresses and In-Situ Measurement of Phase Transformation in Low Transformation Temperature (LTT) Welding Materials. Powder Diffraction, 2008, 23, 188-188.	0.2	4
67	Residual stresses in novel metal/ceramic composites exhibiting a lamellar microstructure. Powder Diffraction, 2009, 24, S59-S64.	0.2	4
68	Inelastic behavior of the single domain of metal-ceramic composites with lamellar microstructure. Proceedings in Applied Mathematics and Mechanics, 2011, 11, 285-286.	0.2	4
69	Characterisation of residual stress distribution in clinching joints of carbon steel by diffraction methods. Materials Science and Technology, 2003, 19, 336-342.	1.6	3
70	Residual Stress Determination by the Hole Drilling Method in the Case of Highly Stressed Surface Layers. Zairyo/Journal of the Society of Materials Science, Japan, 2004, 53, 21-25.	0.2	3
71	Neutron Surface Residual Stress Scanning Using Optimisation of a Si Bent Perfect Crystal Monochromator for Minimising Spurious Strains. Materials Science Forum, 0, 681, 399-404.	0.3	3
72	EDXRD Setup for Real Time Observation of a Gas Tungsten Arc (GTA) Welding Process. Materials Science Forum, 0, 706-709, 1655-1660.	0.3	3

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73	Load Partitioning Study in a 3D Interpenetrating AlSi12/Al₂O₃ Metal/Ceramic Composite. Materials Science Forum, 0, 772, 103-107.	0.3	3
74	Effects of finish turning on an austenitic weld investigated using diffraction methods. International Journal of Advanced Manufacturing Technology, 2020, 108, 635-645.	3.0	3
75	In-Situ Synchrotron X-ray Diffraction Investigation of Microstructural Evolutions During Low-Pressure Carburizing. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2021, 52, 1427-1442.	2.2	3
76	Residual stresses in deep-drawn cups made of duplex stainless steel X2CrNiN23-4. Forschung Im Ingenieurwesen/Engineering Research, 2021, 85, 795-806.	1.6	3
77	In Situ Studies of Phase Transformation and Residual Stresses in LTT Alloys During Welding Using Synchrotron Radiation. , 2010, , 13-26.		3
78	Residual Stress Analysis of Strongly Textured Materials by Means of the Incremental Hole-Drilling Method â€“ Survey on the Application Limits. Materialpruefung/Materials Testing, 2014, 56, 915-922.	2.2	3
79	Real Time Monitoring of the Strain Evolution during Rapid Heat Treatment of Steel Samples by Means of Synchrotron X-Ray Diffraction. Materials Science Forum, 2010, 638-642, 2423-2428.	0.3	2
80	Effect of Built-Up Edge Formation on Residual Stresses Induced by Dry Cutting of Normalized Steel. Advanced Materials Research, 2014, 996, 603-608.	0.3	2
81	Locally resolved stress and strain analysis of sinter-joined micro valves using synchrotron X-ray diffraction and conical slit apertures. Microsystem Technologies, 2015, 21, 1787-1795.	2.0	2
82	Residual Stress Depth Distributions for Atmospheric Plasma Sprayed MnCo_{1.9}Fe_{0.1}O₄ Spinel Layers on Crofer Steel Substrate. Materials Science Forum, 0, 905, 174-181.	0.3	2
83	Fast neutron surface strain scanning with high spatial resolution. Materials Characterization, 2019, 154, 53-60.	4.4	2
84	Short-Term Heat Treatment of Ti6Al4V ELI as Implant Material. Materials, 2020, 13, 4948.	2.9	2
85	Numerical characterization of residual stresses in a four-point-bending experiment of textured duplex stainless steel. Archive of Applied Mechanics, 2021, 91, 3541-3555.	2.2	2
86	Investigations on Residual Stresses within Hot-Bulk-Formed Components Using Process Simulation and the Contour Method. Metals, 2021, 11, 566.	2.3	2
87	Time-Resolved X-Ray Diffraction Stress Analysis during Laser Surface Hardening of Steel. HTM - Journal of Heat Treatment and Materials, 2014, 69, 360-367.	0.2	2
88	Effect of surface topography and residual stress on the taper connection stability in total hip arthroplasty. Journal of the Mechanical Behavior of Biomedical Materials, 2022, 128, 105119.	3.1	2
89	Assessment of the Solidification Cracking Susceptibility of Welding Consumables in the Varestraint Test by Means of an Extended Evaluation Methodology. Advanced Engineering Materials, 2022, 24, .	3.5	2
90	Effect of Preloading on Local Residual Stresses Induced by Laser Surface Hardening of Steel. Advanced Materials Research, 2014, 996, 562-567.	0.3	1

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91	Optimization of a multi-channel parabolic guide for the material science diffractometer STRESS-SPEC at FRM II. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2014, 736, 150-155.	1.6	1
92	Non-destructive Neutron Surface Residual Stress Analysis. Journal of Nondestructive Evaluation, 2019, 38, 1.	2.4	1
93	Solidification Cracking Assessment of LTT Filler Materials by Means of Varestraint Testing and ÂµCT. Materials, 2020, 13, 2726.	2.9	1
94	50 Hz Xâ€Ray Diffraction Stress Analysis and Numerical Process Simulation at Laser Surface Line Hardening of Web Structures. Advanced Engineering Materials, 0, , 2100119.	3.5	1
95	Investigation of the Effects of Lowâ€Pressure Carburizing Process Parameters on Microstructural Evolution by Means of In Situ Synchrotron Xâ€Ray Diffraction. Advanced Engineering Materials, 0, , 2100124.	3.5	1
96	Real-time stress evolution during laser surface line hardening at varying maximum surface temperatures using synchrotron X-ray diffraction. Optics and Laser Technology, 2021, 140, 106964.	4.6	1
97	Two-Dimensional Residual Stress Mapping of Multilayer LTT Weld Joints Using the Contour Method. Materials Performance and Characterization, 2018, 7, 545-558.	0.3	1
98	In-situ-Analyse der Phasenumwandlungskinetik wÃhrend des SchweiÃŸens. Materialpruefung/Materials Testing, 2010, 52, 204-210.	2.2	1
99	Effect of Applied and Residual Stresses on the Analysis of Mechanical Properties by Means of Instrumented Indentation Techniques. Materials Science Forum, 0, , 454-459.	0.3	1
100	Effect of Phase architecture on mechanical properties of interpenetrating metal/ceramic composites. , 2014, , 77-86.		1
101	Interrelation between Microstructure and Residual Stresses for Low-Pressure Carburizing of Steel AISI 5120 under Defined Process Parameter Variation. HTM - Journal of Heat Treatment and Materials, 2022, 77, 29-52.	0.2	1
102	Influence of FeCl3 and H2O2 in corrosion testing of modular taper connections in total hip arthroplasty: An in vitro study. Acta Biomaterialia, 2022, 145, 427-435.	8.3	1
103	Glass capillaries as primary optics for X-ray stress analysis. Materialwissenschaft Und Werkstofftechnik, 2003, 34, 115-119.	0.9	0
104	Untersuchung einer mehrlagigen SchweiÃŸnaht eines dickwandigen Rohres aus dem austenitischen Stahl X6 CrNiNb 18 10. Materialwissenschaft Und Werkstofftechnik, 2006, 37, 947-959.	0.9	0
105	In Situ X-Ray Stress Analysis for the Highly Textured Mg-Base Wrought Alloy AZ31. Materials Science Forum, 2006, 524-525, 931-936.	0.3	0
106	Strain Evolution during Mechanical Loading of the Magnesium Base Alloy LAE442 Studied by means of High Energy Synchrotron Diffraction. Materials Science Forum, 0, 681, 437-442.	0.3	0
107	OS4(2)-5(OS04W0113) Microhardness Measurements as a Tool for Stress Analysis. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2003, 2003, 75.	0.0	0
108	OS04W0113 Microhardness measurements as a tool for stress analysis. The Abstracts of ATEM International Conference on Advanced Technology in Experimental Mechanics Asian Conference on Experimental Mechanics, 2003, 2003.2, _OS04W0113-_OS04W0113.	0.0	0

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109	In Situ Synchrotron X-Ray Diffraction Stress Analysis During Laser Surface Line Hardening of Samples with Specific Geometric Features. Minerals, Metals and Materials Series, 2020, , 2127-2138.	0.4	0
110	In situ Investigation during Low Pressure Carburizing by Means of Synchrotron X-ray Diffraction*. HTM - Journal of Heat Treatment and Materials, 2021, 76, 417-431.	0.2	0