Martin MÃ¼ller

List of Publications by Year
in descending order

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Version: 2024-02-01

42 papers	1,962 citations	304743 22 h-index	302126 39 g-index
43 all docs	43 docs citations	43 times ranked	2440 citing authors

#	Article	IF	Citations
1	Cell-wall recovery after irreversible deformation of wood. Nature Materials, 2003, 2, 810-813.	27.5	427
2	Anisotropic Elastic Properties of Cellulose Measured Using Inelastic X-ray Scattering. Macromolecules, 2008, 41, 9755-9759.	4.8	207
3	In Vitro Versus in VivoCellulose Microfibrils from Plant Primary Wall Synthases: Structural Differences. Journal of Biological Chemistry, 2002, 277, 36931-36939.	3.4	141
4	In Situ X-ray Diffraction during Forced Silking of Spider Silk. Macromolecules, 1999, 32, 4464-4466.	4.8	90
5	Mechanical Properties of Silk: Interplay of Deformation on Macroscopic and Molecular Length Scales. Physical Review Letters, 2008, 100, 048104.	7.8	86
6	Direct investigation of the structural properties of tension wood cellulose microfibrils using microbeam X-ray fibre diffraction. Holzforschung, 2006, 60, 474-479.	1.9	74
7	Elastic moduli of nanocrystallites in carbon fibers measured by in-situ X-ray microbeam diffraction. Carbon, 2003, 41, 563-570.	10.3	72
8	Intracrystalline Deuteration of Native Cellulose. Macromolecules, 1999, 32, 2078-2081.	4.8	70
9	Synthesis and thermal stability of zirconia and yttria-stabilized zirconia microspheres. Journal of Colloid and Interface Science, 2015, 448, 582-592.	9.4	70
10	All Disordered Regions of Native Cellulose Show Common Low-Frequency Dynamics. Macromolecules, 2000, 33, 1834-1840.	4.8	61
11	Skin-core structure and bimodal Weibull distribution of the strength of carbon fibers. Carbon, 2007, 45, 2801-2805.	10.3	60
12	The effect of axial strain on crystalline cellulose in Norway spruce. Wood Science and Technology, 2007, 41, 565-583.	3.2	51
13	Mechanical properties of cellulose fibres and wood. Orientational aspectsin situinvestigated with synchrotron radiation. Journal of Synchrotron Radiation, 2005, 12, 739-744.	2.4	49
14	Negative Poisson Ratio of Crystalline Cellulose in Kraft Cooked Norway Spruce. Biomacromolecules, 2006, 7, 1521-1528.	5.4	45
15	Silkworm Silk under Tensile Strain Investigated by Synchrotron X-ray Diffraction and Neutron Spectroscopy. Macromolecules, 2007, 40, 1035-1042.	4.8	44
16	Large-scale parallel alignment of platelet-shaped particles through gravitational sedimentation. Scientific Reports, 2015, 5, 9984.	3.3	40
17	X-ray microdiffraction reveals the orientation of cellulose microfibrils and the size of cellulose crystallites in single Norway spruce tracheids. Trees - Structure and Function, 2008, 22, 49-61.	1.9	35
18	X-ray Microbeam and Electron Diffraction Experiments on Developing Xylem Cell Walls. Biomacromolecules, 2002, 3, 182-186.	5.4	33

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19	P05 imaging beamline at PETRA III: first results. Proceedings of SPIE, 2014, , .	0.8	33
20	Orientation Distribution of Vertically Aligned Multiwalled Carbon Nanotubes. Journal of Physical Chemistry C, 2014, 118, 9507-9513.	3.1	29
21	Identification of ancient textile fibres from Khirbet Qumran caves using synchrotron radiation microbeam diffraction. Spectrochimica Acta, Part B: Atomic Spectroscopy, 2004, 59, 1669-1674.	2.9	26
22	In situ study of phase transformations during laser-beam welding of a TiAl alloy for grain refinement and mechanical property optimization. Intermetallics, 2015, 62, 27-35.	3.9	26
23	Cross-sectional texture of carbon fibres analysed by scanning microbeam X-ray diffraction. Journal of Applied Crystallography, 2001, 34, 473-479.	4.5	23
24	Structural studies of single wood cell walls by synchrotron X-ray microdiffraction and polarised light microscopy. Nuclear Instruments & Methods in Physics Research B, 2005, 238, 16-20.	1.4	21
25	Structure and mechanical properties of carbon fibres: a review of recent microbeam diffraction studies with synchrotron radiation. Journal of Synchrotron Radiation, 2005, 12, 758-764.	2.4	19
26	Increased molecular mobility in humid silk fibers under tensile stress. Physical Review E, 2011, 83, 016104.	2.1	19
27	Highâ€Temperature Stable Zirconia Particles Doped with Yttrium, Lanthanum, and Gadolinium. Particle and Particle Systems Characterization, 2016, 33, 645-655.	2.3	18
28	Structure changes in Nephila dragline: The influence of pressure. Polymer, 2012, 53, 5507-5512.	3.8	12
29	Nanostructured MWCNT/Polypyrrole Actuators with Anisotropic Strain Response. Advanced Engineering Materials, 2016, 18, 597-607.	3.5	11
30	Analytical description of the scattering of cellulose nanocrystals in tracheid wood cells. Journal of Applied Crystallography, 2010, 43, 256-263.	4.5	9
31	Determination of the packing fraction in photonic glass using synchrotron radiation nanotomography. Journal of Synchrotron Radiation, 2016, 23, 1440-1446.	2.4	9
32	Wood and Silk: Hierarchically Structured Biomaterials Investigated In Situ With Xâ€Ray and Neutron Scattering. Advanced Engineering Materials, 2011, 13, 767-772.	3.5	8
33	Determination of Silkworm Silk Fibroin Compressibility Using High Hydrostatic Pressure with in Situ X-ray Microdiffraction. Macromolecules, 2014, 47, 7187-7193.	4.8	8
34	Phase Transformation and Residual Stress in a Laser Beam Spot-Welded TiAl-Based Alloy. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 5750-5760.	2.2	8
35	On radiation damage in FIB-prepared softwood samples measured by scanning X-ray diffraction. Journal of Synchrotron Radiation, 2015, 22, 267-272.	2.4	6
36	Phase Transformations During Solidification of a Laser-Beam-Welded TiAl Alloyâ€”An In Situ Synchrotron Study. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2016, 47, 5761-5770.	2.2	6

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37	Strain-dependent fractional molecular diffusion in humid spider silk fibres. Journal of the Royal Society Interface, 2016, 13, 20160506.	3.4	6
38	Fractional dynamics in silk: From molecular picosecond subdiffusion to macroscopic long-time relaxation. Physical Review E, 2015, 91, 042716.	2.1	5
39	Synchrotron Radiation X-Ray Scattering Techniques for Studying the Micro- and Nanostructure of Wood and their Relation to the Mechanical Properties. Materials Science Forum, 2008, 599, 107-125.	0.3	4
40	Micro- and Nanodiffraction. , 2015, , 55-87.		1
41	<i>In Situ</i> Experiment for Laser Beam Welding of Ti Alloys Using High-Energy X-Rays. Materials Science Forum, 0, 905, 114-119.	0.3	0
42	Bioinspired Adhesion: Multiple Mechanical Gradients are Responsible for the Strong Adhesion of Spider Attachment Hair (Adv. Mater. 37/2020). Advanced Materials, 2020, 32, 2070280.	21.0	0