Volker Klemm

List of Publications by Year
in descending order

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110	2,030	218677	302126
papers	citations	26 h-index	39 g-index

112	112	112	1920
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Stacking faults in high-alloyed metastable austenitic cast steel observed by electron channelling contrast imaging. Scripta Materialia, 2011, 64, 513-516.	5.2	89
2	Promoting abnormal grain growth in Fe-based shape memory alloys through compositional adjustments. Nature Communications, 2019, 10, 2337.	12.8	79
3	Effect of stacking fault energy on the restoration mechanisms and mechanical properties of friction stir welded copper alloys. Materials and Design, 2019, 162, 185-197.	7.0	70
4	Microstructural investigations on as-cast and annealed Alâ€“Sc and Alâ€“Scâ€“Zr alloys. Materials Characterization, 2009, 60, 1387-1394.	4.4	67
5	Interference phenomena observed by X-ray diffraction in nanocrystalline thin films. Journal of Applied Crystallography, 2004, 37, 613-620.	4.5	64
6	Some consequences of the partial crystallographic coherence between nanocrystalline domains in Tiâ€“Alâ€“N and Tiâ€“Alâ€“Siâ€“N coatings. Thin Solid Films, 2006, 514, 240-249.	1.8	63
7	Cyclic degradation in bamboo-like Feâ€“Mnâ€“Alâ€“Ni shape memory alloys â€” The role of grain orientation. Scripta Materialia, 2016, 114, 156-160.	5.2	61
8	Application of a novel method for fabrication of graphene reinforced aluminum matrix nanocomposites: Synthesis, microstructure, and mechanical properties. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2020, 772, 138820.	5.6	58
9	Microstructure, texture, and mechanical properties of friction stir welded commercial brass alloy. Materials Characterization, 2016, 119, 84-91.	4.4	56
10	Effect of Internal Interfaces on Hardness and Thermal Stability of Nanocrystalline Ti0.5Al0.5N Coatings. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 559-569.	2.2	53
11	Interplay of microstructure defects in austenitic steel with medium stacking fault energy. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 649, 390-399.	5.6	51
12	Effect of the aluminium content and the bias voltage on the microstructure formation in Ti1âˆ’xAlxN protective coatings grown by cathodic arc evaporation. Surface and Coatings Technology, 2010, 205, 1345-1349.	4.8	48
13	Microstructure and hardness of nanocrystalline Ti1âˆ’xâˆ’yAlxSiyN thin films. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2007, 462, 279-282.	5.6	47
14	Filamentary resistive switching in amorphous and polycrystalline Nb2O5 thin films. Solid-State Electronics, 2012, 72, 73-77.	1.4	46
15	Microstructural characterisation of titanium coatings deposited using cold gas spraying on Al2O3 substrates. Surface and Coatings Technology, 2009, 203, 3206-3213.	4.8	42
16	Microstructure development in Crâ€“Alâ€“Siâ€“N nanocomposites deposited by cathodic arc evaporation. Surface and Coatings Technology, 2006, 201, 2835-2843.	4.8	39
17	Disclinations in Plastically Deformed Metallic Materials. Advanced Engineering Materials, 2001, 3, 877.	3.5	35
18	X-ray diffraction on nanocrystalline Ti1âˆ’xAlxN thin films. Journal of Alloys and Compounds, 2004, 378, 107-111.	5.5	35

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19	Preparation and characterization of antibacterial silver/vermiculites and silver/montmorillonites. Geochimica Et Cosmochimica Acta, 2010, 74, 6287-6300.	3.9	35
20	Microstructure Defects Contributing to the Energy Absorption in Cr<scp>M</scp>n<scp>N</scp>i <scp>TRIP</scp> Steels. Advanced Engineering Materials, 2013, 15, 571-582.	3.5	35
21	Internal structure of clusters of partially coherent nanocrystallites in Crâ€“Alâ€“N and Crâ€“Alâ€“Siâ€“N coatings. Surface and Coatings Technology, 2007, 201, 9476-9484.	4.8	34
22	Formation of microstructural defects in electrodeposited Co/Cu multilayers. Acta Materialia, 2009, 57, 3211-3222.	7.9	34
23	Influence of Al on the temperature dependence of strain hardening behavior and glide planarity in Feâ€“Crâ€“Niâ€“Mnâ€“C austenitic stainless steels. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 649, 301-312.	5.6	31
24	In situ X-ray diffraction study of stacking fault formation in the near-surface region of transformation induced plasticity steels. Thin Solid Films, 2013, 530, 105-112.	1.8	29
25	Microstructure formation in electrodeposited Coâ€“Cu/Cu multilayers with GMR effect: Influence of current density during magnetic layer deposition. Acta Materialia, 2011, 59, 2992-3001.	7.9	27
26	On the microstructural and functional stability of Fe-Mn-Al-Ni at ambient and elevated temperatures. Scripta Materialia, 2019, 162, 442-446.	5.2	27
27	Transmission electron microscopy analysis of disclination structures in plastically deformed metals. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2002, 324, 174-178.	5.6	26
28	Formation of defect structures in hard nanocomposites. Surface and Coatings Technology, 2008, 203, 572-578.	4.8	25
29	Synthesis, microstructure and hardness of bulk ultrahard BN nanocomposites. Journal of Materials Research, 2008, 23, 981-993.	2.6	23
30	Investigation of interfacial interaction between uncoated and coated carbon fibres and the magnesium alloy AZ91. Analytical and Bioanalytical Chemistry, 2002, 374, 635-638.	3.7	22
31	Cyclic Degradation Behavior of $$ langle 001 angle $$ âŸ¨001âŸ© -Oriented Feâ€“Mnâ€“Alâ€“Ni Single Crystals in Tension. Shape Memory and Superelasticity, 2017, 3, 335-346.	2.2	22
32	Adhesion of silver nanoparticles on the clay substrates; modeling and experiment. Applied Surface Science, 2010, 256, 2841-2848.	6.1	21
33	Properties of cryo-drawn copper with severely twinned microstructure. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 588, 132-141.	5.6	21
34	Tailored colloidal AFM probes and their TEM investigation. Surface and Interface Analysis, 2002, 33, 50-53.	1.8	19
35	Growth and properties of mosaic single crystals for -ray lens application. Journal of Crystal Growth, 2005, 275, e495-e500.	1.5	19
36	Characterization of microstructural defects in melt grown ZnO single crystals. Journal of Applied Physics, 2011, 109, .	2.5	19

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37	Core/shell CdS/ZnS nanoparticles: Molecular modelling and characterization by photocatalytic decomposition of Methylene Blue. Applied Surface Science, 2014, 292, 813-822.	6.1	18
38	Charge trapping of Ge-nanocrystals embedded in TaZrOx dielectric films. Applied Physics Letters, 2015, 106, .	3.3	18
39	A Microdiffraction Method for the Characterization of Partial Disclinations in Plastically Deformed Metals by TEM. Physica Status Solidi A, 1999, 175, 569-576.	1.7	17
40	Interplay between the deposition mode and microstructure in electrochemically deposited Cu thin films. Thin Solid Films, 2007, 515, 6698-6706.	1.8	17
41	Silver Nanoparticles/Montmorillonite Composites Prepared Using Nitrating Reagent at Water and Glycerol. Journal of Nanoscience and Nanotechnology, 2008, 8, 3050-3058.	0.9	16
42	Comparable study of vermiculites from four commercial deposits prepared with fixed ceria nanoparticles. Applied Clay Science, 2018, 151, 164-174.	5.2	16
43	Characterization of the cell block structure and disclination configurations in plastically deformed metals by electron diffraction. Journal of Alloys and Compounds, 2004, 378, 93-96.	5.5	15
44	Interplay of microstructural features in Cr1â^'xAlxN and Cr1â^'xâ^'yAlxSiyN nanocomposite coatings deposited by cathodic arc evaporation. Surface and Coatings Technology, 2008, 202, 3199-3207.	4.8	15
45	Characterisation of nitrogen modified diamond-like carbon films deposited by radio-frequency plasma enhanced chemical vapour deposition. Diamond and Related Materials, 2005, 14, 1073-1077.	3.9	14
46	Microstructure of austenitic stainless steels of various phase stabilities after cyclic and tensile deformation. International Journal of Materials Research, 2011, 102, 1374-1377.	0.3	14
47	Effect of the carbon ion energy on the microstructure of ta-C/Cr multilayers. Surface and Coatings Technology, 2011, 206, 1753-1758.	4.8	14
48	Microstructure of V-based ohmic contacts to AlGaN/GaN heterostructures at a reduced annealing temperature. Applied Physics Letters, 2015, 106, .	3.3	14
49	Thermal Stability of Athermal Ï‰â€²i(Fe) Produced upon Quenching of Î²â€²i(Fe). Advanced Engineering Materials, 2019, 21, 1800158.	3.5	14
50	XRD Analysis of Local Strain Fields in Pearlitic Steels - towards the Fast Examination of Microstructure after Hot Rolling. Steel Research International, 2008, 79, 800-806.	1.8	13
51	Magnetic response of (Cr,Al,Si)N nanocrystallites on the microstructure of Crâ€”Alâ€”Siâ€”N nanocomposites. Zeitschrift FÃ¼r Kristallographie, 2010, 225, 599-609.	1.1	13
52	Effect of the stoichiometry of niobium oxide on the resistive switching of Nb 2 O 5 based metalâ€“insulatorâ€“metal stacks. Journal of Electron Spectroscopy and Related Phenomena, 2015, 202, 122-127.	1.7	13
53	TEM Identification of Disclinations in Plastically Deformed Crystals. Solid State Phenomena, 2002, 87, 57-72.	0.3	12
54	Nano- and microstructure of diamond-like carbon films modified by Caâ€“O incorporation. Diamond and Related Materials, 2003, 12, 1030-1033.	3.9	12

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55	Adhesion of silver nanoparticles on the montmorillonite surface. Journal of Physics and Chemistry of Solids, 2010, 71, 634-637.	4.0	12
56	Room temperature fabricated NbO<inf>x</inf>/Nb<inf>2</inf>O<inf>5</inf> memory switching device with threshold switching effect. , 2013, , .		12
57	High-temperature phase equilibria with the bcc-type Î² (AlMo) phase in the binary Alâ€“Mo system. Intermetallics, 2017, 83, 29-37.	3.9	12
58	Zirconia-Alumina Nanoparticles Prepared by Laser Evaporation: Powder Characterisation by TEM and 27Al MAS NMR. Particle and Particle Systems Characterization, 2002, 19, 169.	2.3	11
59	Structural Properties and Photocatalytic Activity of Ceria Nanoparticles on Vermiculite Matrix. Journal of Nanoscience and Nanotechnology, 2016, 16, 7844-7848.	0.9	11
60	A Novel Approach to Structure Modification of Brasses by Combination of Non-equilibrium Heat Treatment and Friction Stir Processing. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 2391-2398.	2.2	11
61	Investigation of thin oxide films on titanium for capacitor applications. Surface and Interface Analysis, 2008, 40, 850-852.	1.8	10
62	Analysis of local composition gradients in the hard-phase grains of cermets using a combination of X-ray diffraction and electron microscopy. International Journal of Refractory Metals and Hard Materials, 2008, 26, 263-275.	3.8	10
63	Exploring superiority of silatranyl moiety as anchoring unit over its trialkoxysilyl analogue for covalent grafting via fabrication of functionalized mesoporous silica possessing azomethinic pincers for dye adsorption. Microporous and Mesoporous Materials, 2019, 273, 265-272.	4.4	10
64	In situ characterization of the functional degradation of a <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si1.svg"><mml:mrow><mml:mo>[</mml:mo><mml:mrow><mml:mn>00</mml:mn><mml:mover accent="true"><mml:mn>1</mml:mn><mml:mo>Â¯</mml:mo></mml:mover></mml:mrow><mml:mo>]</mml:mo></mml:mrow></mml: orientated Feâ€“Mnâ€“Alâ€“Ni single crystal under compression using acoustic emission measurements. Acta Materialia, 2021, 220, 117333.	7.9	10
65	Microstructure Formations in Copper-Silicon Carbide Composites During Mechanical Alloying in a Planetary Activator. Materialwissenschaft Und Werkstofftechnik, 2000, 31, 1048-1055.	0.9	9
66	Substructure Analysis in Heavily Deformed Materialsby Diffraction Methods. Advanced Engineering Materials, 2004, 6, 861-871.	3.5	9
67	Vermiculite interlayer as a reactor for CdS ultrafine particles preparation. Microporous and Mesoporous Materials, 2010, 129, 118-125.	4.4	9
68	Transmission Electron Microscopy Image Contrast of Disclination Defects in Crystals (Computer) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 2	1.7	8
69	Thermally activated crystallization of Nb2O5 grown on Pt electrode. Applied Physics A: Materials Science and Processing, 2012, 108, 431-437.	2.3	8
70	Interference phenomena in nanocrystalline materials and their application in the microstructure analysis. Zeitschrift FÃ¼r Kristallographie, Supplement, 2008, 2008, 15-26.	0.5	8
71	NANO- AND MICROSTRUCUTRE OF SHORT FIBRE REINFORCED AND UNREINFORCED HYDROXYAPTITE. Biomedizinische Technik, 2002, 47, 397-400.	0.8	7
72	Martensite Reversion Duality Behavior in a Cold-Rolled High Mn Transformation-Induced Plasticity Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 4550-4560.	2.2	7

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73	An orthorhombic D022-like precursor to Al8Mo3 in the Alâ€“Moâ€“Ti system. Journal of Alloys and Compounds, 2020, 823, 153807.	5.5	7
74	Phase and Microstructure Development in the Conversion Type Electrodes for Li-Ion Batteries Based on the Cu-Fe-O System. Journal of the Electrochemical Society, 2013, 160, A1594-A1603.	2.9	6
75	Crystallization dynamics and interface stability of strontium titanate thin films on silicon. Journal of Applied Crystallography, 2015, 48, 393-400.	4.5	6
76	High temperature phase equilibria in the Ti-poor part of the Alâ€“Moâ€“Ti system. Journal of Alloys and Compounds, 2017, 706, 616-628.	5.5	6
77	Cordierite/CeO2 ceramic nanocomposites from vermiculite with fixed CeO2 nanoparticles, talc and kaolin. Applied Clay Science, 2019, 179, 105150.	5.2	6
78	On the preferred orientation in Ti1 â€“xAlxN and Ti1â€“xâ€“yAlxSiyN thin films. International Journal of Materials Research, 2005, 96, 738-742.	0.8	6
79	Undoped GaAs grown by the vertical gradient freeze method: growth and properties. Materials Science and Engineering B: Solid-State Materials for Advanced Technology, 1994, 28, 87-90.	3.5	5
80	Identification de dÃ©sinclinaisons dans la structure des matÃ©riaux fortement dÃ©formÃ©s. Annales De Chimie: Science Des Materiaux, 2002, 27, 25-33.	0.4	5
81	Orientation Relationship between the TRIP Steel Substrate and the ZrO2 thin Film. Steel Research International, 2011, 82, 985-989.	1.8	5
82	Ge nanoparticle formation by thermal treatment of rf-sputtered ZrO2/ZrGe2O3 superlattices. Journal of Applied Physics, 2013, 113, 044303.	2.5	5
83	Temperature stable Au nanoparticles embedded in Er3+ doped ZrO2 solâ€“gel thin films prepared by spin coating. Thin Solid Films, 2016, 606, 13-18.	1.8	5
84	Microstructure Investigations of the Phase Boundaries in the Bridgman TRIP Steel Crystal. Solid State Phenomena, 0, 160, 211-216.	0.3	4
85	Inâ€Situ Study of the Microstructure Development in a CrMnNi TRIP Steel During Plastic Deformation. Steel Research International, 2011, 82, 998-1003.	1.8	4
86	Modification of the Electrolyte/Electrode Interface for the Template-free Electrochemical Synthesis of Metal Nanowires from Ionic Liquids. Journal of Physical Chemistry Letters, 2018, 9, 1272-1278.	4.6	4
87	Investigations on the Microstructure of an Aluminium Nitride Layer and Its Interface with the Aluminium Substrate (Part I). Coatings, 2022, 12, 618.	2.6	4
88	(Invited) Germanium Nanostructures in High-K Materials. ECS Transactions, 2013, 53, 237-243.	0.5	3
89	Interface Phenomena Responsible for Bonding between <scp>TRIP</scp> Steel and Partially Stabilised Zirconia as Revealed by TEM. Advanced Engineering Materials, 2013, 15, 627-637.	3.5	3
90	The role of oxygen in shockwave-synthesized Î³-Si3N4 material. Journal of the European Ceramic Society, 2015, 35, 3283-3288.	5.7	3

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91	Erbium-doped slot waveguides containing size-controlled silicon nanocrystals. Journal of Applied Physics, 2015, 117, 163106.	2.5	3
92	Coexistence of conversion and intercalation mechanisms in lithium ion batteries: Consequences for microstructure and interaction between the active material and electrolyte. International Journal of Materials Research, 2017, 108, 971-983.	0.3	3
93	Nanoscale partitioning of Mn between austenite and martensite revealed by Curie temperature variations. Philosophical Magazine Letters, 2018, 98, 55-63.	1.2	3
94	Microstructure and charge trapping in ZrO2- and Si3N4-based superlattice layer systems with Ge nanoparticles. Thin Solid Films, 2018, 645, 124-128.	1.8	3
95	A Tem-Based Disclination Model for the Substructure Evolution under Severe Plastic Deformation. , 2000, , 197-202.		3
96	Microstructural characterisation of Cr-Al-N nanocomposites deposited by cathodic arc evaporation. Zeitschrift FÃ¼r Kristallographie, Supplement, 2008, 2008, 159-166.	0.5	3
97	Microstructure Investigation of the PVD Thin Films of TRIP Steels. Solid State Phenomena, 2010, 160, 273-279.	0.3	2
98	Size- and position-controlled Ge nanocrystals separated by high-k dielectrics. MRS Bulletin, 2022, 47, 773-782.	3.5	2
99	Microstructure formation in electrochemically deposited Copper thin films. Materialwissenschaft Und Werkstofftechnik, 2007, 38, 121-124.	0.9	1
100	Silicon and Germanium Nanoclusters Embedded in Zirconium Dioxide Matrices. ECS Journal of Solid State Science and Technology, 2012, 1, N135-N138.	1.8	1
101	(Invited) Semiconductor Nanocrystals Embedded in High-k Materials. ECS Transactions, 2012, 45, 9-16.	0.5	1
102	Quality of dissimilar welded particle-reinforced TRIP/TWIP steels generated by electron beam braze-welding. Welding in the World, Le Soudage Dans Le Monde, 2019, 63, 1655-1667.	2.5	1
103	Residual stress and elastic anisotropy in the Ti-Al-(Si-)N and Cr-Al-(Si-)N nanocomposites deposited by cathodic arc evaporation. Zeitschrift FÃ¼r Kristallographie, Supplement, 2008, 2008, 245-252.	0.5	1
104	Application of lattice parameter measurements in X-ray analysis of elastic distortions due to interstitial atoms in metals. Crystal Research and Technology, 1983, 18, K112-K115.	1.3	0
105	The promise of EXAFS/EXELFS spectroscopy for structure analysis in ceramic composites. Journal of the European Ceramic Society, 1992, 10, 213-220.	5.7	0
106	Low-band gap nanoparticles embedded in high-K dielectrics. , 2012, , .		0
107	Evolution of real structure in Geâ€Si mosaic crystals. Crystal Research and Technology, 2016, 51, 742-751.	1.3	0
108	Disclinations in Severe Deformed Materials: A Case for Tem Characterization. , 2003, , 533-541.		0

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109	Investigations on the Influence of Subsequent Electron Beam (EB) Remelting on the Microstructure of an Aluminium Nitride Layer Formed on an Aluminium Substrate (Part II). Coatings, 2022, 12, 650.	2.6	0
110	On the preferred orientation in Ti_{1â€“x}Al_xN and Ti_{1â€“xâ€“y}Al_xSi_yN thin films. International Journal of Materials Research, 2022, 96, 738-742.	0.3	0