Andreas Zerr

List of Publications by Year
in descending order

68 papers	3,409 citations	257101 24 h-index	149479 56 g-index
81 all docs	81 docs citations	81 times ranked	2340 citing authors

#	Article	IF	Citations
1	Synthesis of cubic silicon nitride. Nature, 1999, 400, 340-342.	13.7	613
2	Synthesis of cubic zirconium and hafnium nitride having Th3P4 structure. Nature Materials, 2003, 2, 185-189.	13.3	299
3	Melting of (Mg, Fe)SiO3-Perovskite to 625 Kilobars: Indication of a High Melting Temperature in the Lower Mantle. Science, 1993, 262, 553-555.	6.0	216
4	High-pressure chemistry of nitride-based materials. Chemical Society Reviews, 2006, 35, 987.	18.7	200
5	Constraints on the melting temperature of the lower mantle from high-pressure experiments on MgO and magnesioÃ¼stite. Nature, 1994, 371, 506-508.	13.7	199
6	Solidus of Earth's Deep Mantle. , 1998, 281, 243-246.		185
7	Elastic Moduli and Hardness of Cubic Silicon Nitride. Journal of the American Ceramic Society, 2002, 85, 86-90.	1.9	146
8	Recent Advances in New Hard High-Pressure Nitrides. Advanced Materials, 2006, 18, 2933-2948.	11.1	127
9	Synthesis of a cubic Ge3N4 phase at high pressures and temperatures. Journal of Chemical Physics, 1999, 111, 4659-4662.	1.2	126
10	Spinel-Si3N4: Multi-Anvil Press Synthesis and Structural Refinement. Advanced Materials, 2000, 12, 883-887.	11.1	124
11	Highâ€Pressure Synthesis of Tantalum Nitride Having Orthorhombic U₂S₃ Structure. Advanced Functional Materials, 2009, 19, 2282-2288.	7.8	99
12	(Mg,Fe)SiO3-Perovskite Stability Under Lower Mantle Conditions. Science, 1998, 280, 2093-2095.	6.0	87
13	High-Pressure Synthesis of Crystalline Carbon Nitride Imide, C2N2(NH). Angewandte Chemie - International Edition, 2007, 46, 1476-1480.	7.2	82
14	Electronic Structure of Spinel-Type Nitride Compounds<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Si</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="bold">N</mml:mi><mml:mn>4</mml:mn></mml:msub></mml:math>,<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:msub><mml:mi>Ge</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:msub><mml:mi	2.9	59
15	Decomposition of alkanes at high pressures and temperatures. High Pressure Research, 2006, 26, 23-32.	0.4	52
16	Melting of CaSiO3perovskite to 430 kbar and firstin-situmeasurements of lower mantle eutectic temperatures. Geophysical Research Letters, 1997, 24, 909-912.	1.5	41
17	Temperature and chemistry of the core-mantle boundary. Chemical Geology, 1995, 120, 199-205.	1.4	35
18	Partitioning of nickel and cobalt between silicate perovskite and metal at pressures up to 80â€‰GPa. Nature, 1999, 398, 604-607.	13.7	34

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19	Spinel Sialons We gratefully acknowledge the synthesis of Î²-sialon starting material by M. Zenotchkine and the fruitful conversation with James W. McCauley concerning the existence of Î³-Al3O3N. The department of high-pressure/mineral physics, Max-Planck-Institut fÃ¼r Chemie, Mainz, is acknowledged for providing technical support. We are further grateful for the financial support of this work provided by the Deutsche Forschungsgemeinschaft and the Fonds der Chemischen Industrie. E.K. thanks the Alexander von. Angewandte Chemie - International Edition, 2002, 41, 789.	7.2	34
20	Synthesis of Nanocrystalline Zr3N4 and Hf3N4 Powders from Metal Dialkylamides. Zeitschrift Fur Anorganische Und Allgemeine Chemie, 2005, 631, 1449-1455.	0.6	34
21	Revealing sub-Î¼m and Î¼m-scale textures in H2O ice at megabar pressures by time-domain Brillouin scattering. Scientific Reports, 2015, 5, 9352.	1.6	33
22	The Coesite-Stishovite Transition in a laser-heated diamond cell. Geophysical Research Letters, 1995, 22, 441-444.	1.5	30
23	Equation of state of cubic hafnium(IV) nitride having Th3P4 -type structure. Solid State Communications, 2006, 139, 255-258.	0.9	29
24	Hydrostatic compression of ?-(Mg0.6, Fe0.4)2SiO4 to 50.0 GPa. Physics and Chemistry of Minerals, 1993, 19, 507.	0.3	25
25	Elastic moduli of hard câ€Zr₃N₄ from laser ultrasonic measurements. Physica Status Solidi - Rapid Research Letters, 2010, 4, 353-355.	1.2	25
26	Relative stability of red and black phosphorus at P<1 GPa. Journal of Materials Science, 1992, 27, 2677-2681.	1.7	24
27	High-Pressure Multianvil Synthesis and Structure Refinement of Oxygen-Bearing Cubic Zirconium(IV) Nitride. Advanced Materials, 2007, 19, 1869-1873.	11.1	24
28	A New High-Pressure ?-Phase of Si3N4. Physica Status Solidi (B): Basic Research, 2001, 227, R4-R6.	0.7	22
29	Equation of state and structural phase transition in FeBO3 at high pressure. JETP Letters, 2002, 75, 23-25.	0.4	22
30	Longitudinal sound velocities, elastic anisotropy, and phase transition of high-pressure cubic <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi mathvariant="normal">H</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi mathvariant="normal">O</mml:mi></mml:mrow></mml:math> ice to 82 GPa. Physical Review B, 2017, 96, .	1.1	22
31	Response. Science, 1994, 264, 280-281.	6.0	20
32	The transition of pyrope to perovskite. Physics and Chemistry of Minerals, 1998, 25, 193-196.	0.3	20
33	Photoluminescence and electronic transitions in cubic silicon nitride. Scientific Reports, 2016, 6, 18523.	1.6	19
34	Picosecond laser ultrasonics for imaging of transparent polycrystalline materials compressed to megabar pressures. Ultrasonics, 2016, 69, 259-267.	2.1	19
35	Experimental evidence of an electronic transition in CeP under pressure using Ce L₃ XAS. Physical Chemistry Chemical Physics, 2017, 19, 17526-17530.	1.3	16
36	Synthesis and properties of oxygen-bearing c-Zr3N4 and c-Hf3N4. Journal of Alloys and Compounds, 2009, 480, 46-49.	2.8	15

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37	Laser-Assisted High-Pressure-Induced Polymerization of 2-(Hydroxyethyl)methacrylate. Journal of Physical Chemistry B, 2015, 119, 3577-3582.	1.2	15
38	Elastic moduli and hardness of c-Zr2.86(N0.88O0.12)4 having Th3P4-type structure. Applied Physics Letters, 2007, 90, 191910.	1.5	14
39	Compressibility of cubic vanadium mononitride. Europhysics Letters, 2010, 92, 66001.	0.7	14
40	A New Route for High-Purity Organic Materials: High-Pressure-Ramp-Induced Ultrafast Polymerization of 2-(Hydroxyethyl)Methacrylate. Scientific Reports, 2016, 5, 18244.	1.6	13
41	Synthesis of organicâ€“inorganic hybrids <i>via</i> a high-pressure-ramp process: the effect of inorganic nanoparticle loading on structural and photochromic properties. Nanoscale, 2018, 10, 22293-22301.	2.8	11
42	Directivity patterns and pulse profiles of ultrasound emitted by laser action on interface between transparent and opaque solids: Analytical theory. Journal of Applied Physics, 2014, 115, 044902.	1.1	10
43	Elastic anisotropy and single-crystal moduli of solid argon up to 64ÂGPa from time-domain Brillouin scattering. Physical Review B, 2019, 99, .	1.1	10
44	New high pressure nitrides. Acta Crystallographica Section A: Foundations and Advances, 2002, 58, c47-c47.	0.3	8
45	Laser ultrasonic measurements in a diamond anvil cell on Fe and the KBr pressure medium. Journal of Physics: Conference Series, 2011, 278, 012017.	0.3	8
46	Elastic moduli of Î·â€Ta₂N₃, a tough selfâ€healing material, via laser ultrasonics. Physica Status Solidi - Rapid Research Letters, 2012, 6, 484-486.	1.2	8
47	Synthesis of cubic zirconium(IV) nitride, c-Zr3N4, in the 6â€“8â€¯GPa pressure region. Ceramics International, 2019, 45, 20028-20032.	2.3	8
48	Electronic Band Transitions in Î³-Ge3N4. Electronic Materials Letters, 2021, 17, 315-323.	1.0	8
49	Optical chamber with diamond anvils for shear deformation of substances at pressures up to 96 GPa. High Pressure Research, 1992, 8, 567-571.	0.4	7
50	Elastic moduli and hardness of highly incompressible platinum perpnictide PtAs2. Applied Physics Letters, 2013, 103, 101901.	1.5	7
51	<i>In situ</i>imaging of the dynamics of photo-induced structural phase transition at high pressures by picosecond acoustic interferometry. New Journal of Physics, 2017, 19, 053026.	1.2	7
52	3D characterization of individual grains of coexisting high-pressure H2O ice phases by time-domain Brillouin scattering. Journal of Applied Physics, 2021, 130, .	1.1	7
53	Defects induced by He+ irradiation in Î³-Si3N4. Journal of Luminescence, 2021, 237, 118132.	1.5	7
54	Electronic structure and band gap of oxygen bearing câ€<scp>Z</scp>r₃<scp>N</scp>₄ and of câ€<scp>H</scp>f₃<scp>N</scp>₄ by soft Xâ€ray spectroscopy. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 835-842.	0.8	6

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55	Influence of elastic anisotropy on measured sound velocities and elastic moduli of polycrystalline cubic solids. Journal of Applied Physics, 2021, 130, .	1.1	5
56	Elastic moduli and hardness of Î· -Ta 2 N 3 from nanoindentation measurements. Europhysics Letters, 2015, 111, 18006.	0.7	4
57	Vickers microhardness and indentation fracture toughness of tantalum sesquinitride, Î·-Ta2N3. Ceramics International, 2016, 42, 982-985.	2.3	4
58	High-pressure high-temperature synthesis of novel binary and ternary nitride phases of group 4 and 14 elements. Journal of Physics: Conference Series, 2008, 121, 062003.	0.3	3
59	Raman spectroscopy study of nitromethane in a shear diamond anvil cell. High Pressure Research, 2010, 30, 24-27.	0.4	3
60	Perovskite Temperature Profile. Science, 1994, 265, 723-723.	6.0	2
61	Comments on â€œHardness, elasticity, and fracture toughness of polycrystalline spinel germanium nitride and tin nitride,â€• by M.P. Shemkunas, W.T. Petuskey, A.V.G. Chizmeshya, K. Leinenweber, and G.H. Wolf [J. Mater. Res. 19, 1392 (2004)]: Reestablishing of elastic moduli for Î³-Ge₃N₄. Journal of Materials Research, 2008, 23, 3273-3274.	1.2	2
62	Sound Velocities and Elastic Moduli of Phases I and V of Silicon at High Pressures. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900173.	1.2	2
63	Phase Transitions and Disordering of CaSiO3 upon Compression.. Review of High Pressure Science and Technology/Koatsuryoku No Kagaku To Gijutsu, 1998, 7, 359-361.	0.1	1
64	Tuning the Electronic Band Gap of Oxygen-Bearing Cubic Zirconium Nitride: c-Zr3â€“x(N1â€“xOx)4. ACS Applied Electronic Materials, 0, , .	2.0	1
65	Corrections and Clarifications. Science, 1994, 265, 723-723.	6.0	0
66	Synthesis of Nanocrystalline Zr3N4 and Hf3N4 Powders from Metal Dialkylamides.. ChemInform, 2005, 36, no.	0.1	0
67	EFFECT OF SHEAR STRAIN ON THE HIGH-PRESSURE BEHAVIOR OF NITROMETHANE: RAMAN SPECTROSCOPY IN A SHEAR DIAMOND ANVIL CELL. , 2009, , .		0
68	Perovskite Temperature Profile. Science, 1994, 265, 723-723.	6.0	0