

Petra Becker

List of Publications by Year in descending order

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52
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87
all docs

87
docs citations

87
times ranked

2104
citing authors

#	ARTICLE	IF	CITATIONS
1	Observation of chiral solitons in LiCuVO4. Communications Physics, 2022, 5, .	2.0	4
2	Linear and nonlinear optical properties, pyroelectricity and vibrational spectroscopy of polar guanidinium hydrogen phosphite, CuH2PO3, and hydrogen selenite, CuHSeO3. Optical Materials, 2021, 111, 110722.	1.7	5
3	Multiple field-induced phases in the frustrated triangular magnet $\text{CsMn}_3\text{P}_3\text{O}_{13}$. Physical Review B, 2021, 104, .		
4	Triclinic Pedial Sarcosinium Hydrogen (+) Tartrate Crystal Growth, Pyroelectricity, Thermal Expansion, and Linear Optical Properties. Crystal Research and Technology, 2020, 55, 1900040.	0.6	0
5	Stimulated Raman Scattering in Melilite Type Crystals $\text{Ca}_2\text{MgSi}_2\text{O}_7$ and $\text{Ca}_2\text{Ga}_2\text{SiO}_7$. Crystal Research and Technology, 2020, 55, 2000038.	0.6	2
6	Observation of Unconventional Dynamics of Domain Walls in Uniaxial Ferroelectric Lead Germanate. Advanced Functional Materials, 2020, 30, 2000284.	7.8	14
7	High-field quantum disordered state in $\text{Ba}_2\text{Cu}_3\text{O}_7$: Spin flips, bound states, and multiparticle continuum. Physical Review B, 2020, 101, .		
8	Multiple spin-orbit excitons and the electronic structure of RuCl_3 . Physical Review Research, 2020, 2, .	1.3	17
9	Cocrystals of 2-Aminopyrimidine with Boric Acid Crystal Engineering of a Novel Nonlinear Optically (NLO) Active Crystal. Crystals, 2019, 9, 403.	1.0	9
10	Coupled dynamics of long-range and cluster-internal spin order in the cluster Mott insulator Cu_2OSeO_3 . Physical Review B, 2019, 100, .	1.1	2
11	Spin-orbit entangled moments in $\text{Ba}_2\text{Cu}_3\text{O}_7$: A frustrated fcc quantum magnet. Physical Review B, 2019, 100, .	1.1	40
12	Evidence for polarized nanoregions from the domain dynamics in multiferroic LiCuVO4. Scientific Reports, 2019, 9, 4391.	1.6	8
13	Crystal growth, thermal expansion, pyroelectricity and vibrational spectroscopy of barium antimony tartrate, $\text{Ba}[\text{Sb}_2(+)\text{C}_4\text{H}_2\text{O}_6]_2 \cdot 3\text{H}_2\text{O}$. Optical Materials, 2019, 91, 70-79.	1.7	5
14	Inelastic light scattering in the spin cluster Mott insulator Cu_2OSeO_3 . Physical Review B, 2019, 100, .	1.1	3
15	Resonant inelastic x-ray incarnation of Young's double-slit experiment. Science Advances, 2019, 5, eaav4020.	4.7	29
16	Spodumene, $\text{LiAlSi}_2\text{O}_6$ A new natural SRS-active crystal with three Γ_3 -promoting vibrational modes. Optical Materials, 2018, 78, 235-246.	1.7	3
17	Crystal growth, crystal structure, vibrational spectroscopy, linear and nonlinear optical properties of guanidinium phosphates. Optical Materials, 2017, 69, 420-431.	1.7	17
18	Observation of stimulated Raman scattering in polar tetragonal crystals of barium antimony tartrate trihydrate, $\text{Ba}[\text{Sb}_2(+)\text{C}_4\text{H}_2\text{O}_6]_2 \cdot 3\text{H}_2\text{O}$. Annalen Der Physik, 2017, 529, 1600295.	0.9	3

#	ARTICLE	IF	CITATIONS
19	Stimulated Raman scattering in natural crystals of fluorapatite, $\text{Ca}_5(\text{PO}_4)_3\text{F}$. Laser and Photonics Reviews, 2016, 10, 814-825.	4.4	3
20	Linear optical properties and Raman spectroscopy of natural fluorapatite. Crystal Research and Technology, 2016, 51, 282-289.	0.6	11
21	Crystal growth, crystal structure and pyroelectric properties of the polar hexagonal antimony tartrates $\text{M}[\text{Sb}_2(\text{C}_4\text{H}_2\text{O}_6)_2] \cdot 2\text{H}_2\text{O}$ ($\text{M} = \text{Ca}, \text{Sr}, \text{Pb}$). Crystal Research and Technology, 2015, 50, 482-489.	0.6	9
22	Critical Slowing Down near the Multiferroic Phase Transition in MnWO_4 . Physical Review Letters, 2015, 114, 037204.	2.9	27
23	Single crystals of guanidinium zinc sulfate, $[\text{C}(\text{NH}_2)_3]_2\text{Zn}(\text{SO}_4)_2$ growth, structure, vibrational spectroscopy and stimulated Raman scattering. Zeitschrift Fur Kristallographie - Crystalline Materials, 2015, 230, 639-649.	0.4	5
24	Pyroelectric properties of the monoclinic rare earth nitrates $\text{Ln}(\text{NO}_3)_5 \cdot 4\text{H}_2\text{O}$ ($\text{Ln} = \text{NH}_4, \text{Rb}; \text{Ln} = \text{Tj}, \text{Er}, \text{Qq}, \text{O}_3, \text{gBT}, \text{Over}$)	0.4	0
25	Zircon, ZrSiO_4 - A novel SRS-active crystal. Physica Status Solidi (B): Basic Research, 2015, 252, 305-315.	0.7	8
26	Domain dynamics in the multiferroic phase of MnWO_4 . Physical Review B, 2014, 89, .	1.1	21
27	Beryllium Silicate, Be_2SiO_4 (phenakite) a Novel Trigonal SRS-Active Crystal. Laser and Photonics Reviews, 2014, 8, 324-331.	4.4	9
28	Manifestations of nonlinear optical effects in a novel SRS-active crystal natural topaz, $\text{Al}_2(\text{F}_{10}\text{O}_2)(\text{OH})_2\text{SiO}_4$: many-phonon $\ddot{\Gamma}(3)$ -lasing, more than sesqui-octave Stokes and anti-Stokes multi-wavelength comb lasing, cascaded and cross-cascaded $\ddot{\Gamma}(3)$ Raman-induced interactions under single- and dual-wavelength picosecond collinear coherent pumping, THG and combined SRS-promoting phonon modes. Laser Physics Letters, 2013, 10, 073001.	0.6	16
29	Thermodynamic properties of the new multiferroic material $(\text{NH}_4)_2\text{FeCl}_5(\text{H}_2\text{O})$. New Journal of Physics, 2013, 15, 123001.	1.2	36
30	Stimulated Raman scattering in monoclinic non-centrosymmetric guanylurea(1+) hydrogen phosphite (GUHP). Physica Status Solidi (B): Basic Research, 2013, 250, 1837-1856.	0.7	16
31	Cerussite, PbCO_3 a new Stimulated Raman Scattering (SRS)-active crystal with high-order Stokes and anti-Stokes lasing. Laser and Photonics Reviews, 2013, 7, 425-431.	4.4	8
32	Spin-Chain System $\frac{1}{2}XZ$. Physical Review Letters, 2013, 111, 077201.	2.9	35
33	Phosgenite, $\text{Pb}_2\text{CO}_3\text{Cl}_2$ a novel SRS-active crystal. Physica Status Solidi - Rapid Research Letters, 2013, 7, 429-433.	1.2	5
34	Temperature-dependent thermo-mechanical and Raman spectroscopy study of the SRS-active melilite-type crystal $\text{Ca}_2\text{ZnSi}_2\text{O}_7$ (hardystonite) at its incommensurate-commensurate phase transition. Physica Status Solidi (A) Applications and Materials Science, 2012, 209, 327-334.	0.8	8
35	Stimulated Raman scattering spectroscopy and $\ddot{\Gamma}(3)$ -nonlinear lasing effects in single crystals of aragonite (orthorhombic CaCO_3). Laser Physics Letters, 2012, 9, 259-284.	0.6	18
36	Detection of a new SRS-promoting phonon mode and cross-cascaded $\ddot{\Gamma}(3)$ -nonlinear lasing in single crystals of calcite (trigonal CaCO_3). Laser and Photonics Reviews, 2012, 6, 690-701.	4.4	14

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37	Stimulated Raman scattering in natural crystals of SrSO ₄ , BaSO ₄ and PbSO ₄ : High-order Stokes and anti-Stokes generation with a single-wavelength UV, visible, and near-IR excitation, as well as cascaded up-conversion nonlinear $\ddot{\Gamma}(3)$ lasing effects under dual-wavelength picosecond collinear coherent pumping. Applied Physics B: Lasers and Optics, 2011, 105, 363-378.	1.1	31
38	CW one-micron (4F _{3/2} -4I _{11/2}) laser oscillation of Nd ³⁺ ions in the melilite-type crystal Ca ₂ MgSi ₂ O ₇ :Nd ³⁺ (Na ⁺) at its incommensurate-commensurate phase transition. Applied Physics B: Lasers and Optics, 2011, 103, 629-635.	1.1	6
39	Many-phonon stimulated Raman scattering and related cascaded and cross-cascaded $\ddot{\Gamma}(3)$ -nonlinear optical effects in melilite-type crystal Ca ₂ ZnSi ₂ O ₇ . Laser Physics Letters, 2011, 8, 859-874.	0.6	19
40	Non-Centrosymmetric Ammonium Rare Earth Nitrates (NH ₄) ₂ Ln(NO ₃) ₅ ·4H ₂ O - Crystal Structure, Crystal Growth and Optical Properties. European Journal of Inorganic Chemistry, 2010, 2010, 2642-2648.	1.0	4
41	Manifestations of new $\ddot{\Gamma}(3)$ -nonlinear laser interactions in calcite (CaCO ₃) single crystals under one-micron picosecond pumping: more than two-octave spanned Stokes and anti-Stokes multi-wavelength comb and third harmonic generation via cascaded parametric lasing. Laser Physics Letters, 2010, 7, 142-152.	0.6	24
42	Non-centrosymmetric tetragonal Sr ₂ ZnGe ₂ O ₇ - a novel melilite-type nonlinear-laser crystal offering $\ddot{\Gamma}(2)$ -, $\ddot{\Gamma}(3)$ -, and cascaded $\ddot{\Gamma}(3)$ - $\ddot{\Gamma}(2)$ -interactions. Laser Physics Letters, 2010, 7, 367-377.	0.6	25
43	More than two-octaves span of the Stokes and anti-Stokes picosecond lasing comb in orthorhombic natural single crystals of celestine, SrSO ₄ . Laser Physics Letters, 2010, 7, 743-751.	0.6	11
44	Stimulated emission (4F _{3/2} → 4I _{11/2} channel) with LD and Xe-flashlamp pumping of tetragonal, incommensurately modulated Ca ₂ MgSi ₂ O ₇ :Nd ³⁺ (Na ⁺) - a new disordered laser crystal. Laser Physics Letters, 2010, 7, 876-883.	0.6	7
45	Optical properties of the germanate melilites Sr ₂ MgGe ₂ O ₇ , Sr ₂ ZnGe ₂ O ₇ and Ba ₂ ZnGe ₂ O ₇ . Crystal Research and Technology, 2009, 44, 603-612.	0.6	50
46	Optical properties of non-centrosymmetric mixed crystals K ₂ (La _{1-x} Ce _x)(NO ₃) ₅ ·2H ₂ O (x = 0.0 – 1.0). Crystal Research and Technology, 2009, 44, 1131-1138.	0.6	6
47	Trigonal Na ₃ Li(MoO ₄) ₂ ·6H ₂ O - a new many-phonon SRS molybdate crystal offering numerous nonlinear-laser interactions: several cascaded lasing ($\ddot{\Gamma}(3)$ effects and more than sesqui-octave Stokes and anti-Stokes comb generation under one-micron picosecond pumping. Laser Physics Letters, 2009, 6, 335-350.	0.6	19
48	Orthorhombic tris(glycine) zinc chloride Gly ₃ ·ZnCl ₂ ·2H ₂ O a new semi-organic many-phonon SRS crystal manifesting different nonlinear-laser ($\ddot{\Gamma}(3)$ + $\ddot{\Gamma}(2)$) interactions under one-micron picosecond pumping. Laser Physics Letters, 2009, 6, 872-885.	0.6	19
49	Non-centrosymmetric rubidium rare-earth nitrates Rb ₂ RE(NO ₃) ₅ ·4H ₂ O: Crystal growth and optical properties. Zeitschrift Fur Anorganische Und Allgemeine Chemie, 2009, 635, 2236-2241.	0.6	5
50	Second harmonic generation in melilite-type Ba ₂ MgGe ₂ O ₇ . Physica Status Solidi (B): Basic Research, 2009, 246, 1674-1676.	0.7	8
51	Observation of many-phonon stimulated Raman scattering and related cascaded nonlinear-laser effects in monoclinic LaBO ₂ MoO ₄ single crystals. Laser Physics Letters, 2008, 5, 114-121.	0.6	37
52	Wide-band Raman Stokes and anti-Stokes comb lasing in a BaF ₂ single crystal under picosecond pumping. Laser Physics Letters, 2008, 5, 304-310.	0.6	30
53	Monoclinic LaBO ₂ MoO ₄ :Nd ³⁺ - a new SE- and ($\ddot{\Gamma}(2)$ + $\ddot{\Gamma}(3)$)-active crystal for multifunctional lasers. Laser Physics Letters, 2008, 5, 737-745.	0.6	17
54	Tetragonal Ba ₂ MgGe ₂ O ₇ - a novel multifunctional optical crystal with numerous manifestations of nonlinear-laser effects: almost sesqui-octave Stokes and anti-Stokes combs and cascaded $\ddot{\Gamma}(3)$ - $\ddot{\Gamma}(2)$ lasing with involved second and third harmonic generation. Laser Physics Letters, 2008, 5, 845-868.	0.6	56

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55	Polymorphy of monoclinic terbium triborate, Tb ₃ O ₆ . Crystal Research and Technology, 2008, 43, 1240-1246.	0.6	8
56	Nonlinear optical properties of strontium tartrato-antimonate(III) dihydrate, Sr[Sb ₂ {(+)-C ₄ H ₂ O ₆ } ₂] \cdot 2H ₂ O. Crystal Research and Technology, 2008, 43, 508-513.	0.6	8
57	New nonlinear laser effects in \hat{I} -quartz: generation of a two-octave Stokes and anti-Stokes comb and cascaded lasing in the spectral range of the second and third harmonics. Physics-Uspekhi, 2008, 51, 899-909.	0.8	36
58	X-ray diffraction study of the piezoelectric properties of BiB ₃ O ₆ single crystals. Zeitschrift für Kristallographie, 2007, 222, 396-401.	1.1	21
59	New Materials for Optical Frequency Conversion via Stimulated Raman Scattering and Cascaded \hat{I} (3) \hat{I} (2) Processes. Ferroelectrics, 2007, 352, 42-49.	0.3	4
60	Monoclinic ethylenediamine (+)-tartrate (NH ₃ CH ₂ CH ₂ NH ₃)(+)-C ₄ H ₄ O ₆ (EDT) \hat{I} a new organic non-centrosymmetric crystal for Raman laser converters with large (\hat{I} 3000 cm ⁻¹) frequency shifts. Laser Physics Letters, 2007, 4, 291-303.	0.6	14
61	Mechanical, thermo-mechanical and piezoelectric properties of rare earth formates Y(HCOO) ₃ \cdot 2H ₂ O and Er(HCOO) ₃ \cdot 2H ₂ O. Physica Status Solidi (A) Applications and Materials Science, 2007, 204, 745-754.	0.8	4
62	Trigonal Na ₃ Li(SeO ₄) ₂ \cdot 6H ₂ O crystal \hat{I} a novel SRS-active material with high Raman gain coefficient. Physica Status Solidi - Rapid Research Letters, 2007, 1, R16-R18.	1.2	5
63	Temperature-dependent X-ray and neutron diffraction study of BiB ₃ O ₆ . Zeitschrift für Kristallographie - Crystalline Materials, 2007, 222, .	0.4	21
64	Linear and nonlinear optical properties of yttrium formate dihydrate, Y(HCOO) ₃ \cdot 2H ₂ O. Applied Physics B: Lasers and Optics, 2007, 86, 523-527.	1.1	12
65	Piezoelectric and elastic properties of the nonlinear optical material bismuth triborate, BiB ₃ O ₆ . Applied Physics A: Materials Science and Processing, 2006, 82, 495-502.	1.1	62
66	Cubic N(CH ₂ CH ₂ NH ₃) ₃ Br ₃ crystal \hat{I} a novel non-centrosymmetric organic material for Raman laser converters with large frequency shift. Laser Physics Letters, 2006, 3, 490-494.	0.6	12
67	Non-centrosymmetric molybdates CsLiMoO ₄ and CsLiMoO ₄ \cdot 2H ₂ O: crystal growth, polymorphism, efficient Stokes and anti-Stokes generation and cascaded self-frequency \hat{I} (3)(SRS) \hat{I} (2)(SHG, SFM) conversion effects. Physica Status Solidi A, 2005, 202, 2543-2564.	1.7	13
68	Room-temperature high-order Stokes and anti-Stokes generation in orthorhombic ferroelectric-ferroelastic K ₃ Nb ₃ O ₆ (BO ₃) ₂ crystal. Physica Status Solidi A, 2004, 201, 2154-2169.	1.7	11
69	Non-centrosymmetric Y(HCOO) ₃ \cdot 2H ₂ O crystal. A new inorganic material for Raman lasers with large frequency shift of three promoting vibration modes of its [O-CH-O]- formate anions: effective high-order Stokes and anti-Stokes generation and cascaded self-frequency \hat{I} (3)(SRS) \hat{I} (2)(SHG, SFM) and \hat{I} (2)(SHG, SFM) \hat{I} (3)(SRS) conversions. Physica Status Solidi A, 2004, 201, 3200-3216.	1.7	20
70	Europium triborate, EuB ₃ O ₆ . Acta Crystallographica Section E: Structure Reports Online, 2004, 60, i131-i133.	0.2	6
71	Cerium triborate, CeB ₃ O ₆ . Acta Crystallographica Section E: Structure Reports Online, 2004, 60, i134-i135.	0.2	14
72	Thermal and optical properties of glasses of the system Bi ₂ O ₃ \hat{I} B ₂ O ₃ . Crystal Research and Technology, 2003, 38, 74-82.	0.6	102

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73	Thermal and Optical Properties of Glasses of the System Bi ₂ O ₃ -B ₂ O ₃ . ChemInform, 2003, 34, no.	0.1	0
74	Monoclinic modification of polymorphic TbB ₃ O ₆ . Acta Crystallographica Section E: Structure Reports Online, 2003, 59, i83-i85.	0.2	12
75	Monoclinic bismuth triborate BiB ₃ O ₆ a new efficient $\chi^{(2)}$ - $\chi^{(3)}$ -nonlinear crystal: multiple stimulated Raman scattering and self-sum-frequency lasing effects. Optics Communications, 2002, 206, 179-191.	1.0	79
76	Crystal Growth and Spectroscopic Characterisation of BiB ₃ O ₆ :RE ³⁺ (RE ³⁺ = Pr ³⁺ , Nd ³⁺ , Gd ³⁺ , Er ³⁺ ,) Tj ETQq0 0 0 rgBT /Overlock 10 T	0.6	28
77	Crystal Growth, Thermal and Linear Optical Properties of LiGeBO ₄ . Crystal Research and Technology, 2001, 36, 119-126.	0.6	9
78	Thermal Expansion of Bismuth Triborate. Crystal Research and Technology, 2001, 36, 1175.	0.6	28
79	Crystal Growth and Basic Characterisation of the Bismuth Borate Bi ₂ B ₈ O ₁₅ . Crystal Research and Technology, 2001, 36, 1353.	0.6	12
80	Top-seeded growth of bismuth triborate, BiB ₃ O ₆ . Journal of Crystal Growth, 1999, 203, 149-155.	0.7	134
81	Borate Materials in Nonlinear Optics. Advanced Materials, 1998, 10, 979-992.	11.1	1,345
82	Cascaded nonlinear-laser interactions in melilite-type crystals of Sr ₂ MgGe ₂ O ₇ and Ba ₂ ZnGe ₂ O ₇ . Laser Physics Letters, 0, 7, 528-543.	0.6	12
83	Stimulated Raman Scattering (SRS) in BiB_3O_6 (Diaspore). Crystal Research and Technology, 0, , 2100055.	0.6	0