

# Anton Plech

## List of Publications by Year in descending order

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108  
papers

5,924  
citations

101384

36  
h-index

71532

76  
g-index

109  
all docs

109  
docs citations

109  
times ranked

7434  
citing authors

#	ARTICLE	IF	CITATIONS
1	Turkevich Method for Gold Nanoparticle Synthesis Revisited. Journal of Physical Chemistry B, 2006, 110, 15700-15707.	1.2	1,822
2	Laser-induced heating and melting of gold nanoparticles studied by time-resolved x-ray scattering. Physical Review B, 2004, 70, .	1.1	252
3	Excitation of nanoscale vapor bubbles at the surface of gold nanoparticles in water. Journal of Chemical Physics, 2006, 124, 184702.	1.2	230
4	Femtosecond laser near-field ablation from gold nanoparticles. Nature Physics, 2006, 2, 44-47.	6.5	227
5	Dynamics of silver nanoparticle formation and agglomeration inside the cavitation bubble after pulsed laser ablation in liquid. Physical Chemistry Chemical Physics, 2013, 15, 3068-3074.	1.3	174
6	Nanoparticle formation in a cavitation bubble after pulsed laser ablation in liquid studied with high time resolution small angle x-ray scattering. Applied Physics Letters, 2012, 101, 103104.	1.5	168
7	Cavitation dynamics on the nanoscale. Applied Physics Letters, 2005, 87, 213102.	1.5	161
8	Nanoparticles Engineering by Pulsed Laser Ablation in Liquids: Concepts and Applications. Nanomaterials, 2020, 10, 2317.	1.9	140
9	Thermodynamics of nanosecond nanobubble formation at laser-excited metal nanoparticles. New Journal of Physics, 2011, 13, 043018.	1.2	138
10	A hierarchical view on material formation during pulsed-laser synthesis of nanoparticles in liquid. Scientific Reports, 2015, 5, 16313.	1.6	132
11	Visualizing Chemical Reactions in Solution by Picosecond X-Ray Diffraction. Physical Review Letters, 2004, 92, 125505.	2.9	123
12	Chopper system for time resolved experiments with synchrotron radiation. Review of Scientific Instruments, 2009, 80, 015101.	0.6	106
13	Structural Determination of a Transient Isomer of CH <sub>2</sub> I <sub>2</sub> by Picosecond X-Ray Diffraction. Physical Review Letters, 2005, 94, .	2.9	93
14	The realization of sub-nanosecond pump and probe experiments at the ESRF. Faraday Discussions, 2003, 122, 13-26.	1.6	86
15	Pulsed laser ablation in liquids: Impact of the bubble dynamics on particle formation. Journal of Colloid and Interface Science, 2017, 489, 106-113.	5.0	84
16	Size Quenching during Laser Synthesis of Colloids Happens Already in the Vapor Phase of the Cavitation Bubble. Journal of Physical Chemistry C, 2017, 121, 5356-5365.	1.5	79
17	A Surface Phase Transition of Supported Gold Nanoparticles. Nano Letters, 2007, 7, 1026-1031.	4.5	76
18	Spatiotemporal reaction kinetics of an ultrafast photoreaction pathway visualized by time-resolved liquid x-ray diffraction. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 9410-9415.	3.3	64

#	ARTICLE	IF	CITATIONS
19	Femtosecond laser near field ablation. Laser and Photonics Reviews, 2009, 3, 435-451.	4.4	64
20	Thermal dynamics in laser excited metal nanoparticles. Chemical Physics Letters, 2005, 401, 565-569.	1.2	62
21	On the fundamental structure of femtosecond laser-induced nanogratings. Laser and Photonics Reviews, 2012, 6, 787-792.	4.4	61
22	Materials synthesis in a bubble. MRS Bulletin, 2019, 44, 382-391.	1.7	60
23	Recombination of photodissociated iodine: A time-resolved x-ray-diffraction study. Journal of Chemical Physics, 2006, 124, 034501.	1.2	59
24	Probing photoinduced phase transition in a charge-transfer molecular crystal by 100 picosecond X-ray diffraction. Chemical Physics, 2004, 299, 163-170.	0.9	51
25	Ultrafast X-ray Solution Scattering Reveals an Unknown Reaction Intermediate in the Photolysis of $[Ru_3(CO)_{12}]$ . Angewandte Chemie - International Edition, 2008, 47, 5550-5553.	7.2	48
26	Growth Kinetic of a Rod-Shaped Metal Nanocrystal. Journal of Physical Chemistry C, 2009, 113, 10390-10394.	1.5	48
27	Ultrashort laser pulse induced nanogratings in borosilicate glass. Applied Physics Letters, 2014, 104, .	1.5	48
28	Kinetics of the X-ray induced gold nanoparticle synthesis. Physical Chemistry Chemical Physics, 2008, 10, 3888.	1.3	47
29	Early appearance of crystalline nanoparticles in pulsed laser ablation in liquids dynamics. Nanoscale, 2019, 11, 6962-6969.	2.8	46
30	Ultrafast Structural Dynamics of the Photocleavage of Protein Hybrid Nanoparticles. ACS Nano, 2011, 5, 3788-3794.	7.3	45
31	Time-resolved X-ray diffraction on laser-excited metal nanoparticles. Europhysics Letters, 2003, 61, 762-768.	0.7	44
32	Time and Mechanism of Nanoparticle Functionalization by Macromolecular Ligands during Pulsed Laser Ablation in Liquids. Langmuir, 2019, 35, 3038-3047.	1.6	44
33	In situ x-ray reflectivity study of the oxidation kinetics of liquid gallium and the liquid alloy. Journal of Physics Condensed Matter, 1998, 10, 971-982.	0.7	41
34	Fluence Threshold Behaviour on Ablation and Bubble Formation in Pulsed Laser Ablation in Liquids. ChemPhysChem, 2017, 18, 1084-1090.	1.0	41
35	Target geometry and rigidity determines laser-induced cavitation bubble transport and nanoparticle productivity – a high-speed videography study. Physical Chemistry Chemical Physics, 2016, 18, 16585-16593.	1.3	40
36	<i>In situ</i> structural kinetics of picosecond laser-induced heating and fragmentation of colloidal gold spheres. Physical Chemistry Chemical Physics, 2020, 22, 4993-5001.	1.3	40

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37	First investigations of the kinetics of the topochemical reaction of p-formyl-trans-cinnamic acid by time-resolved X-ray diffraction. <i>Faraday Discussions</i> , 2003, 122, 105-117.	1.6	38
38	Primary particle diameter differentiation and bimodality identification by five analytical methods using gold nanoparticle size distributions synthesized by pulsed laser ablation in liquids. <i>Applied Surface Science</i> , 2018, 435, 743-751.	3.1	35
39	How the re-irradiation of a single ablation spot affects cavitation bubble dynamics and nanoparticles properties in laser ablation in liquids. <i>Applied Surface Science</i> , 2019, 473, 828-837.	3.1	32
40	X-ray "filming" of atomic motions in chemical reactions. <i>Chemical Physics</i> , 2004, 304, 245-251.	0.9	31
41	Picosecond X-Ray Studies of Coherent Folded Acoustic Phonons in a Multiple Quantum Well. <i>Physical Review Letters</i> , 2005, 94, 125509.	2.9	31
42	Investigation of Structure and Growth of Self-Assembled Polyelectrolyte Layers by X-ray and Neutron Scattering under Grazing Angles. <i>Journal of Colloid and Interface Science</i> , 2000, 223, 74-82.	5.0	30
43	Guest Controlled Assembly of Gold Nanoparticles Coated with Calix[4]arene Hosts. <i>Journal of Physical Chemistry C</i> , 2010, 114, 13601-13607.	1.5	30
44	Femtosecond laser written nanostructures in Ge-doped glasses. <i>Optics Letters</i> , 2016, 41, 1161.	1.7	30
45	Thermal dynamics of pulsed-laser excited gold nanorods in suspension. <i>Nanoscale</i> , 2017, 9, 17284-17292.	2.8	29
46	The onset of ultrashort pulse-induced nanogratings. <i>Laser and Photonics Reviews</i> , 2016, 10, 327-334.	4.4	28
47	Layer-by-Layer Spray-Coating of Cellulose Nanofibrils and Silver Nanoparticles for Hydrophilic Interfaces. <i>ACS Applied Nano Materials</i> , 2021, 4, 503-513.	2.4	24
48	Monolayer of metallo-supramolecular complexes. <i>Chemical Communications</i> , 1998, , 2731-2732.	2.2	23
49	Diffuse scattering from liquid solutions with white-beam undulator radiation for photoexcitation studies. <i>Journal of Synchrotron Radiation</i> , 2002, 9, 287-292.	1.0	21
50	Thermal conductivity of isotopically controlled silicon nanostructures. <i>New Journal of Physics</i> , 2014, 16, 015021.	1.2	21
51	Photoluminescence of Fully Inorganic Colloidal Gold Nanocluster and Their Manipulation Using Surface Charge Effects. <i>Advanced Materials</i> , 2021, 33, e2101549.	11.1	21
52	Femtosecond and picosecond near-field ablation of gold nanotriangles: nanostructuring and nanomelting. <i>Applied Physics A: Materials Science and Processing</i> , 2011, 104, 793-799.	1.1	20
53	A Shack-Hartmann Sensor for Single-Shot Multi-Contrast Imaging with Hard X-rays. <i>Applied Sciences (Switzerland)</i> , 2018, 8, 737.	1.3	20
54	X-ray spectroscopic and stroboscopic analysis of pulsed-laser ablation of Zn and its oxidation. <i>Applied Physics A: Materials Science and Processing</i> , 2018, 124, 1.	1.1	19

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55	In situ speciation and spatial mapping of Zn products during pulsed laser ablation in liquids (PLAL) by combined synchrotron methods. <i>Nanoscale</i> , 2020, 12, 14011-14020.	2.8	19
56	FLUTE: A versatile linac-based THz source. <i>Review of Scientific Instruments</i> , 2013, 84, 022705.	0.6	18
57	Scalable, large area compound array refractive lens for hard X-rays. <i>Applied Physics Letters</i> , 2018, 112, .	1.5	18
58	Self-assembled thin films of organo-metal complexes. <i>Thin Solid Films</i> , 1999, 354, 208-214.	0.8	17
59	Wetting transition of a binary liquid mixture at a solid boundary. <i>Europhysics Letters</i> , 2000, 49, 583-589.	0.7	17
60	Nanosecond time-resolved crystallography of photo-induced species: case study and instrument development for high-resolution excited-state single-crystal structure determination. <i>Faraday Discussions</i> , 2003, 122, 119-129.	1.6	17
61	Gold nanoparticle membranes as large-area surface monolayers. <i>Journal of Colloid and Interface Science</i> , 2010, 346, 1-7.	5.0	17
62	Incubation Effect of Pre-irradiation on Bubble Formation and Ablation in Laser Ablation in Liquids. <i>ChemPhysChem</i> , 2019, 20, 1036-1043.	1.0	17
63	Structural kinetics of laser-excited metal nanoparticles supported on a surface. <i>Chemical Physics</i> , 2004, 299, 183-191.	0.9	16
64	Shack-Hartmann wavefront sensors based on 2D refractive lens arrays and super-resolution multi-contrast X-ray imaging. <i>Journal of Synchrotron Radiation</i> , 2020, 27, 788-795.	1.0	15
65	Dynamics of the laser-induced ferroelectric excitation in BaTiO <sub>3</sub> studied by x-ray diffraction. <i>Applied Physics Letters</i> , 2007, 90, 022905.	1.5	14
66	Small-angle pump-probe studies of photoexcited nanoparticles. <i>Journal of Synchrotron Radiation</i> , 2007, 14, 288-294.	1.0	14
67	Reduced thermal conductivity of isotopically modulated silicon multilayer structures. <i>Applied Physics Letters</i> , 2012, 101, 064103.	1.5	14
68	Structural evolution of nanopores and cracks as fundamental constituents of ultrashort pulse-induced nanogratings. <i>Applied Physics A: Materials Science and Processing</i> , 2014, 114, 75-79.	1.1	14
69	Vibrational symmetry breaking of supported nanospheres. <i>Physical Review B</i> , 2012, 86, .	1.1	13
70	On the rewriting of ultrashort pulse-induced nanogratings. <i>Optics Letters</i> , 2015, 40, 2049.	1.7	12
71	A portable ultrahigh-vacuum system for advanced synchrotron radiation studies of thin films and nanostructures: EuSi <sub>2</sub> nano-islands. <i>Journal of Synchrotron Radiation</i> , 2015, 22, 91-98.	1.0	11
72	Direct time-resolved studies of photochemical reactions in liquids by X-ray scattering. <i>Journal of Luminescence</i> , 2001, 94-95, 493-498.	1.5	10

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73	Solid-liquid interface of a 2-propanol/perfluoromethylcyclohexane mixture: From adsorption to wetting. <i>Physical Review E</i> , 2002, 65, 061604.	0.8	10
74	On the Optical Properties of Ag/Au Colloidal Alloys Pulsed Laser Ablated in Liquid: Experiments and Theory. <i>Journal of Physical Chemistry C</i> , 2020, 124, 24930-24939.	1.5	10
75	Asynchronous sampling for ultrafast experiments with low momentum compaction at the ANKA ring. <i>Journal of Synchrotron Radiation</i> , 2011, 18, 539-545.	1.0	8
76	Wetting transition and pretransitional thin films in binary liquids: alcohol/perfluoromethylcyclohexane mixtures studied by x-ray reflectivity. <i>Journal of Physics Condensed Matter</i> , 2001, 13, 5563-5576.	0.7	7
77	Inverted Hartmann mask for single-shot phase-contrast x-ray imaging of dynamic processes. <i>Optics Letters</i> , 2019, 44, 2306.	1.7	7
78	Picosecond Diffraction at the ESRF: How Far Have We Come and Where Are We Going?. <i>AIP Conference Proceedings</i> , 2007, , .	0.3	6
79	Structural study of near-field ablation close to plasmon-resonant nanotriangles. <i>Journal of Laser Applications</i> , 2012, 24, .	0.8	6
80	Determination of nanoscale heat conductivity by time-resolved X-ray scattering. <i>Thin Solid Films</i> , 2013, 541, 28-31.	0.8	6
81	Ultrashort pulse laser processing of silica at high repetition rates from network change to residual strain. <i>International Journal of Applied Glass Science</i> , 2017, 8, 233-238.	1.0	6
82	Light-induced structural phase behaviour of metal nanoparticle materials. <i>Journal of Physics: Conference Series</i> , 2005, 21, 50-55.	0.3	5
83	Ultrafast study of phonon transport in isotopically controlled semiconductor nanostructures. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2016, 213, 541-548.	0.8	5
84	Lattice Dynamics of Laser Excited Ferroelectric BaTiO <sub>3</sub> . <i>Acta Physica Polonica A</i> , 2012, 121, 319-323.	0.2	5
85	A new apparatus for the measurement of X-ray absorption by flame generated particles. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , 2003, 207, 227-231.	0.6	4
86	Time-dependent x-ray scattering signal of laser heated liquids. , 2004, , 349-352.		4
87	Compressibility of tugtupite at high pressure. <i>Zeitschrift Fur Kristallographie - Crystalline Materials</i> , 1995, 210, 418-420.	0.4	3
88	The toroidal mirror for single-pulse experiments on ID09B. , 2002, 4782, 246.		3
89	Time-resolved x-ray diffraction from small molecules in solution. , 2004, , 337-347.		3
90	Structural and Thermal Characterisation of Nanofilms by Time-Resolved X-ray Scattering. <i>Nanomaterials</i> , 2019, 9, 501.	1.9	3

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91	Speciation in nanosecond laser ablation of zinc in water. <i>Science China: Physics, Mechanics and Astronomy</i> , 2022, 65, 1.	2.0	3
92	Ultrafast x-ray scattering on nanoparticle dynamics. <i>Journal of Physics: Conference Series</i> , 2013, 425, 092008.	0.3	2
93	Ultrafast laser pump X-ray probe experiments by means of asynchronous sampling. <i>Journal of Physics: Conference Series</i> , 2013, 425, 092007.	0.3	2
94	Erasure and formation of femtosecond laser-induced nanostructures. , 2015, , .		2
95	Measurement and analysis of thermal conductivity of isotopically controlled silicon layers by time-resolved X-ray scattering. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2016, 213, 3020-3028.	0.8	2
96	Structural dynamics probed by X-ray pulses from synchrotrons and XFELs. <i>Comptes Rendus Physique</i> , 2021, 22, 75-94.	0.3	2
97	Structural kinetics in protein-coated gold nanoparticles probed by time-resolved x-ray scattering. <i>Springer Series in Chemical Physics</i> , 2009, , 134-136.	0.2	2
98	Determination of structure in liquid solutions - implications for picosecond photoexcitation studies. <i>Journal of Physics Condensed Matter</i> , 2003, 15, S137-S143.	0.7	1
99	Time Resolved X-ray Diffraction and Non-Thermal Inelastic X-ray Scattering. <i>AIP Conference Proceedings</i> , 2004, , .	0.3	1
100	High-speed asynchronous optical sampling for high-sensitivity detection of coherent phonons. <i>Journal of Physics: Conference Series</i> , 2007, 92, 012005.	0.3	1
101	The underlying structure of ultrashort pulse laser-induced nanogratings. , 2013, , .		1
102	Picosecond x-ray studies of coherent folded acoustic phonons in a periodic semiconductor heterostructure. , 2006, , .		0
103	Dynamics of laser-excited nanoparticles. <i>Proceedings of SPIE</i> , 2008, , .	0.8	0
104	Ultrashort pulse induced nanogratings. <i>MATEC Web of Conferences</i> , 2013, 8, 03001.	0.1	0
105	Formation and evolution of ultrashort pulse-induced nanogratings in Borosilicate glass. , 2014, , .		0
106	Morphological evolution of nanopores and cracks as fundamental components of ultrashort pulse laser-induced nanogratings. , 2014, , .		0
107	Thermal Stability Studies of DySi <sub>2</sub> Nanowires and Nanoislands by in Situ GISAXS. <i>Journal of Physical Chemistry C</i> , 2016, 120, 7365-7372.	1.5	0
108	2D lens array for multi-contrast X-ray imaging. , 2019, , .		0