

# Anton Plech

## List of Publications by Citations

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102  
papers

4,912  
citations

32  
h-index

69  
g-index

109  
ext. papers

5,421  
ext. citations

4.2  
avg, IF

5.35  
L-index

#	Paper	IF	Citations
102	Turkevich method for gold nanoparticle synthesis revisited. <i>Journal of Physical Chemistry B</i> , <b>2006</b> , 110, 15700-7	3.4	1521
101	Laser-induced heating and melting of gold nanoparticles studied by time-resolved x-ray scattering. <i>Physical Review B</i> , <b>2004</b> , 70,	3.3	218
100	Excitation of nanoscale vapor bubbles at the surface of gold nanoparticles in water. <i>Journal of Chemical Physics</i> , <b>2006</b> , 124, 184702	3.9	201
99	Femtosecond laser near-field ablation from gold nanoparticles. <i>Nature Physics</i> , <b>2006</b> , 2, 44-47	16.2	199
98	Dynamics of silver nanoparticle formation and agglomeration inside the cavitation bubble after pulsed laser ablation in liquid. <i>Physical Chemistry Chemical Physics</i> , <b>2013</b> , 15, 3068-74	3.6	156
97	Nanoparticle formation in a cavitation bubble after pulsed laser ablation in liquid studied with high time resolution small angle x-ray scattering. <i>Applied Physics Letters</i> , <b>2012</b> , 101, 103104	3.4	147
96	Cavitation dynamics on the nanoscale. <i>Applied Physics Letters</i> , <b>2005</b> , 87, 213102	3.4	147
95	A hierarchical view on material formation during pulsed-laser synthesis of nanoparticles in liquid. <i>Scientific Reports</i> , <b>2015</b> , 5, 16313	4.9	116
94	Thermodynamics of nanosecond nanobubble formation at laser-excited metal nanoparticles. <i>New Journal of Physics</i> , <b>2011</b> , 13, 043018	2.9	113
93	Visualizing chemical reactions in solution by picosecond x-ray diffraction. <i>Physical Review Letters</i> , <b>2004</b> , 92, 125505	7.4	110
92	Chopper system for time resolved experiments with synchrotron radiation. <i>Review of Scientific Instruments</i> , <b>2009</b> , 80, 015101	1.7	90
91	Structural Determination of a Transient Isomer of CH <sub>2</sub> I <sub>2</sub> by Picosecond X-Ray Diffraction. <i>Physical Review Letters</i> , <b>2005</b> , 94,	7.4	84
90	The realization of sub-nanosecond pump and probe experiments at the ESRF. European Synchrotron Radiation Facility. <i>Faraday Discussions</i> , <b>2003</b> , 122, 13-26; discussion 79-88	3.6	79
89	A surface phase transition of supported gold nanoparticles. <i>Nano Letters</i> , <b>2007</b> , 7, 1026-31	11.5	71
88	Pulsed laser ablation in liquids: Impact of the bubble dynamics on particle formation. <i>Journal of Colloid and Interface Science</i> , <b>2017</b> , 489, 106-113	9.3	70
87	Size Quenching during Laser Synthesis of Colloids Happens Already in the Vapor Phase of the Cavitation Bubble. <i>Journal of Physical Chemistry C</i> , <b>2017</b> , 121, 5356-5365	3.8	64
86	Spatiotemporal reaction kinetics of an ultrafast photoreaction pathway visualized by time-resolved liquid x-ray diffraction. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2006</b> , 103, 9410-5	11.5	55

85	Thermal dynamics in laser excited metal nanoparticles. <i>Chemical Physics Letters</i> , <b>2005</b> , 401, 565-569	2.5	55
84	Recombination of photodissociated iodine: a time-resolved x-ray-diffraction study. <i>Journal of Chemical Physics</i> , <b>2006</b> , 124, 034501	3.9	53
83	On the fundamental structure of femtosecond laser-induced nanogratings. <i>Laser and Photonics Reviews</i> , <b>2012</b> , 6, 787-792	8.3	52
82	Femtosecond laser near field ablation. <i>Laser and Photonics Reviews</i> , <b>2009</b> , 3, 435-451	8.3	50
81	Probing photoinduced phase transition in a charge-transfer molecular crystal by 100 picosecond X-ray diffraction. <i>Chemical Physics</i> , <b>2004</b> , 299, 163-170	2.3	49
80	Growth Kinetic of a Rod-Shaped Metal Nanocrystal. <i>Journal of Physical Chemistry C</i> , <b>2009</b> , 113, 10390-10394	3.4	45
79	Time-resolved X-ray diffraction on laser-excited metal nanoparticles. <i>Europhysics Letters</i> , <b>2003</b> , 61, 762-768	1.6	44
78	Nanoparticles Engineering by Pulsed Laser Ablation in Liquids: Concepts and Applications. <i>Nanomaterials</i> , <b>2020</b> , 10,	5.4	43
77	Ultrafast structural dynamics of the photocleavage of protein hybrid nanoparticles. <i>ACS Nano</i> , <b>2011</b> , 5, 3788-94	16.7	42
76	Kinetics of the X-ray induced gold nanoparticle synthesis. <i>Physical Chemistry Chemical Physics</i> , <b>2008</b> , 10, 3888-94	3.6	40
75	Ultrafast X-ray solution scattering reveals an unknown reaction intermediate in the photolysis of [Ru <sub>3</sub> (CO) <sub>12</sub> ]. <i>Angewandte Chemie - International Edition</i> , <b>2008</b> , 47, 5550-3	16.4	39
74	Ultrashort laser pulse induced nanogratings in borosilicate glass. <i>Applied Physics Letters</i> , <b>2014</b> , 104, 211107	1.7	35
73	Fluence Threshold Behaviour on Ablation and Bubble Formation in Pulsed Laser Ablation in Liquids. <i>ChemPhysChem</i> , <b>2017</b> , 18, 1084-1090	3.2	34
72	Materials synthesis in a bubble. <i>MRS Bulletin</i> , <b>2019</b> , 44, 382-391	3.2	34
71	Early appearance of crystalline nanoparticles in pulsed laser ablation in liquids dynamics. <i>Nanoscale</i> , <b>2019</b> , 11, 6962-6969	7.7	32
70	Target geometry and rigidity determines laser-induced cavitation bubble transport and nanoparticle productivity - a high-speed videography study. <i>Physical Chemistry Chemical Physics</i> , <b>2016</b> , 18, 16585-93	3.6	32
69	Guest Controlled Assembly of Gold Nanoparticles Coated with Calix[4]arene Hosts. <i>Journal of Physical Chemistry C</i> , <b>2010</b> , 114, 13601-13607	3.8	30
68	X-ray filming of atomic motions in chemical reactions. <i>Chemical Physics</i> , <b>2004</b> , 304, 245-251	2.3	30

67	In situ x-ray reflectivity study of the oxidation kinetics of liquid gallium and the liquid alloy. <i>Journal of Physics Condensed Matter</i> , <b>1998</b> , 10, 971-982	1.8	30
66	Picosecond x-ray studies of coherent folded acoustic phonons in a multiple quantum well. <i>Physical Review Letters</i> , <b>2005</b> , 94, 125509	7.4	29
65	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> , <b>2000</b> , 223, 74-82	9.3	29
64	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> , <b>2018</b> , 435, 743-751	6.7	29
63	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> , <b>2003</b> , 122, 105-17; discussion 171-90	3.6	28
62	Time and Mechanism of Nanoparticle Functionalization by Macromolecular Ligands during Pulsed Laser Ablation in Liquids. <i>Langmuir</i> , <b>2019</b> , 35, 3038-3047	4	27
61	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> , <b>2019</b> , 473, 828-837	6.7	23
60	Femtosecond laser written nanostructures in Ge-doped glasses. <i>Optics Letters</i> , <b>2016</b> , 41, 1161-4	3	22
59	Thermal dynamics of pulsed-laser excited gold nanorods in suspension. <i>Nanoscale</i> , <b>2017</b> , 9, 17284-17292	7.7	21
58	Diffuse scattering from liquid solutions with white-beam undulator radiation for photoexcitation studies. <i>Journal of Synchrotron Radiation</i> , <b>2002</b> , 9, 287-92	2.4	21
57	In situ structural kinetics of picosecond laser-induced heating and fragmentation of colloidal gold spheres. <i>Physical Chemistry Chemical Physics</i> , <b>2020</b> , 22, 4993-5001	3.6	20
56	X-ray spectroscopic and stroboscopic analysis of pulsed-laser ablation of Zn and its oxidation. <i>Applied Physics A: Materials Science and Processing</i> , <b>2018</b> , 124, 1	2.6	18
55	Femtosecond and picosecond near-field ablation of gold nanotriangles: nanostructuring and nanomelting. <i>Applied Physics A: Materials Science and Processing</i> , <b>2011</b> , 104, 793-799	2.6	18
54	The onset of ultrashort pulse-induced nanogratings. <i>Laser and Photonics Reviews</i> , <b>2016</b> , 10, 327-334	8.3	18
53	Thermal conductivity of isotopically controlled silicon nanostructures. <i>New Journal of Physics</i> , <b>2014</b> , 16, 015021	2.9	17
52	Monolayer of metallo-supramolecular complexes. <i>Chemical Communications</i> , <b>1998</b> , 2731-2732	5.8	17
51	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> , <b>2003</b> , 122, 119-29; discussion 171-90	3.6	17
50	Wetting transition of a binary liquid mixture at a solid boundary. <i>Europhysics Letters</i> , <b>2000</b> , 49, 583-589	1.6	17

49	Self-assembled thin films of organo-metal complexes. <i>Thin Solid Films</i> , <b>1999</b> , 354, 208-214	2.2	17
48	In situ speciation and spatial mapping of Zn products during pulsed laser ablation in liquids (PLAL) by combined synchrotron methods. <i>Nanoscale</i> , <b>2020</b> , 12, 14011-14020	7.7	15
47	Scalable, large area compound array refractive lens for hard X-rays. <i>Applied Physics Letters</i> , <b>2018</b> , 112, 151903	3.4	15
46	A Shack-Hartmann Sensor for Single-Shot Multi-Contrast Imaging with Hard X-rays. <i>Applied Sciences (Switzerland)</i> , <b>2018</b> , 8, 737	2.6	15
45	FLUTE: a versatile linac-based THz source. <i>Review of Scientific Instruments</i> , <b>2013</b> , 84, 022705	1.7	15
44	Gold nanoparticle membranes as large-area surface monolayers. <i>Journal of Colloid and Interface Science</i> , <b>2010</b> , 346, 1-7	9.3	15
43	Reduced thermal conductivity of isotopically modulated silicon multilayer structures. <i>Applied Physics Letters</i> , <b>2012</b> , 101, 064103	3.4	14
42	Structural kinetics of laser-excited metal nanoparticles supported on a surface. <i>Chemical Physics</i> , <b>2004</b> , 299, 183-191	2.3	14
41	Layer-by-Layer Spray-Coating of Cellulose Nanofibrils and Silver Nanoparticles for Hydrophilic Interfaces. <i>ACS Applied Nano Materials</i> , <b>2021</b> , 4, 503-513	5.6	14
40	Small-angle pump-probe studies of photoexcited nanoparticles. <i>Journal of Synchrotron Radiation</i> , <b>2007</b> , 14, 288-94	2.4	13
39	Dynamics of the laser-induced ferroelectric excitation in BaTiO <sub>3</sub> studied by x-ray diffraction. <i>Applied Physics Letters</i> , <b>2007</b> , 90, 022905	3.4	13
38	Vibrational symmetry breaking of supported nanospheres. <i>Physical Review B</i> , <b>2012</b> , 86,	3.3	12
37	Incubation Effect of Pre-Irradiation on Bubble Formation and Ablation in Laser Ablation in Liquids. <i>ChemPhysChem</i> , <b>2019</b> , 20, 1036-1043	3.2	12
36	Structural evolution of nanopores and cracks as fundamental constituents of ultrashort pulse-induced nanogratings. <i>Applied Physics A: Materials Science and Processing</i> , <b>2014</b> , 114, 75-79	2.6	11
35	On the rewriting of ultrashort pulse-induced nanogratings. <i>Optics Letters</i> , <b>2015</b> , 40, 2049-52	3	10
34	Direct time-resolved studies of photochemical reactions in liquids by X-ray scattering. <i>Journal of Luminescence</i> , <b>2001</b> , 94-95, 493-498	3.8	9
33	Solid-liquid interface of a 2-propanol-perfluoromethylcyclohexane mixture: from adsorption to wetting. <i>Physical Review E</i> , <b>2002</b> , 65, 061604	2.4	9
32	Asynchronous sampling for ultrafast experiments with low momentum compaction at the ANKA ring. <i>Journal of Synchrotron Radiation</i> , <b>2011</b> , 18, 539-45	2.4	8

31	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> , <b>2015</b> , 22, 91-8	2.4	7
30	Shack-Hartmann wavefront sensors based on 2D refractive lens arrays and super-resolution multi-contrast X-ray imaging. <i>Journal of Synchrotron Radiation</i> , <b>2020</b> , 27, 788-795	2.4	7
29	Determination of nanoscale heat conductivity by time-resolved X-ray scattering. <i>Thin Solid Films</i> , <b>2013</b> , 541, 28-31	2.2	6
28	Structural study of near-field ablation close to plasmon-resonant nanotriangles. <i>Journal of Laser Applications</i> , <b>2012</b> , 24, 042015	2.1	6
27	Wetting transition and pretransitional thin films in binary liquids: alcohol/perfluoromethylcyclohexane mixtures studied by x-ray reflectivity. <i>Journal of Physics Condensed Matter</i> , <b>2001</b> , 13, 5563-5576	1.8	6
26	Inverted Hartmann mask for single-shot phase-contrast x-ray imaging of dynamic processes. <i>Optics Letters</i> , <b>2019</b> , 44, 2306-2309	3	6
25	On the Optical Properties of AgAu Colloidal Alloys Pulsed Laser Ablated in Liquid: Experiments and Theory. <i>Journal of Physical Chemistry C</i> , <b>2020</b> , 124, 24930-24939	3.8	5
24	Picosecond Diffraction at the ESRF: How Far Have We Come and Where Are We Going?. <i>AIP Conference Proceedings</i> , <b>2007</b> ,	0	5
23	Light-induced structural phase behaviour of metal nanoparticle materials. <i>Journal of Physics: Conference Series</i> , <b>2005</b> , 21, 50-55	0.3	5
22	Ultrafast study of phonon transport in isotopically controlled semiconductor nanostructures. <i>Physica Status Solidi (A) Applications and Materials Science</i> , <b>2016</b> , 213, 541-548	1.6	5
21	Ultrashort pulse laser processing of silica at high repetition rates from network change to residual strain. <i>International Journal of Applied Glass Science</i> , <b>2017</b> , 8, 233-238	1.8	4
20	Ultrafast X-Ray Solution Scattering Reveals an Unknown Reaction Intermediate in the Photolysis of [Ru <sub>3</sub> (CO) <sub>12</sub> ]. <i>Angewandte Chemie</i> , <b>2008</b> , 120, 5632-5635	3.6	4
19	A new apparatus for the measurement of X-ray absorption by flame generated particles. <i>Nuclear Instruments &amp; Methods in Physics Research B</i> , <b>2003</b> , 207, 227-231	1.2	4
18	Time-dependent x-ray scattering signal of laser heated liquids <b>2004</b> , 349-352		4
17	Lattice Dynamics of Laser Excited Ferroelectric BaTiO <sub>3</sub> . <i>Acta Physica Polonica A</i> , <b>2012</b> , 121, 319-323	0.6	4
16	Photoluminescence of Fully Inorganic Colloidal Gold Nanocluster and Their Manipulation Using Surface Charge Effects. <i>Advanced Materials</i> , <b>2021</b> , 33, e2101549	24	4
15	Time-resolved x-ray diffraction from small molecules in solution <b>2004</b> , 337-347		3
14	Erasure and formation of femtosecond laser-induced nanostructures <b>2015</b> ,		2

13	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> , <b>2016</b> , 213, 3020-3028	1.6	2
12	Ultrafast laser pump X-ray probe experiments by means of asynchronous sampling. <i>Journal of Physics: Conference Series</i> , <b>2013</b> , 425, 092007	0.3	2
11	Structural kinetics in protein-coated gold nanoparticles probed by time-resolved x-ray scattering. <i>Springer Series in Chemical Physics</i> , <b>2009</b> , 134-136	0.3	2
10	Structural and Thermal Characterisation of Nanofilms by Time-Resolved X-ray Scattering. <i>Nanomaterials</i> , <b>2019</b> , 9,	5.4	1
9	Ultrafast x-ray scattering on nanoparticle dynamics. <i>Journal of Physics: Conference Series</i> , <b>2013</b> , 425, 092008	0.3	1
8	High-speed asynchronous optical sampling for high-sensitivity detection of coherent phonons. <i>Journal of Physics: Conference Series</i> , <b>2007</b> , 92, 012005	0.3	1
7	Determination of structure in liquid solutions - implications for picosecond photoexcitation studies. <i>Journal of Physics Condensed Matter</i> , <b>2003</b> , 15, S137-S143	1.8	1
6	The toroidal mirror for single-pulse experiments on ID09B <b>2002</b> , 4782, 246		1
5	Compressibility of tugtupite at high pressure. <i>Zeitschrift Fur Kristallographie - Crystalline Materials</i> , <b>1995</b> , 210, 418-420	1	1
4	Structural dynamics probed by X-ray pulses from synchrotrons and XFELs. <i>Comptes Rendus Physique</i> , <b>2021</b> , 22, 1-20	1.4	1
3	Speciation in nanosecond laser ablation of zinc in water. <i>Science China: Physics, Mechanics and Astronomy</i> , <b>2022</b> , 65, 1	3.6	0
2	Thermal Stability Studies of DySi <sub>2</sub> Nanowires and Nanoislands by in Situ GISAXS. <i>Journal of Physical Chemistry C</i> , <b>2016</b> , 120, 7365-7372	3.8	
1	Ultrashort pulse induced nanogratings. <i>MATEC Web of Conferences</i> , <b>2013</b> , 8, 03001	0.3	