

# Katharine Moore Tibbetts

## List of Publications by Year in descending order

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68  
papers

1,246  
citations

361413

20  
h-index

414414

32  
g-index

69  
all docs

69  
docs citations

69  
times ranked

987  
citing authors

#	ARTICLE	IF	CITATIONS
1	Exploring constrained quantum control landscapes. <i>Journal of Chemical Physics</i> , 2012, 137, 134113.	3.0	65
2	Triangular Gold Nanoplate Growth by Oriented Attachment of Au Seeds Generated by Strong Field Laser Reduction. <i>Nano Letters</i> , 2015, 15, 3377-3382.	9.1	61
3	Exploring the tradeoff between fidelity and time optimal control of quantum unitary transformations. <i>Physical Review A</i> , 2012, 86, .	2.5	54
4	Gold Nanoparticle Synthesis Using Spatially and Temporally Shaped Femtosecond Laser Pulses: Post-Irradiation Auto-Reduction of Aqueous $[\text{AuCl}_4]^\ominus$ . <i>Journal of Physical Chemistry C</i> , 2013, 117, 18719-18727.	3.1	52
5	Roles of Free Electrons and $\text{H}_2\text{O}_2$ in the Optical Breakdown-Induced Photochemical Reduction of Aqueous $[\text{AuCl}_4]^\ominus$ . <i>Journal of Physical Chemistry A</i> , 2017, 121, 6742-6754.	2.5	52
6	Nucleation and growth of gold nanoparticles initiated by nanosecond and femtosecond laser irradiation of aqueous $[\text{AuCl}_4]^\ominus$ . <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 28465-28475.	2.8	49
7	Search complexity and resource scaling for the quantum optimal control of unitary transformations. <i>Physical Review A</i> , 2011, 83, .	2.5	48
8	Exploring quantum control landscapes: Topology, features, and optimization scaling. <i>Physical Review A</i> , 2011, 84, .	2.5	46
9	Kinetic Control of $[\text{AuCl}_4]^\ominus$ Photochemical Reduction and Gold Nanoparticle Size with Hydroxyl Radical Scavengers. <i>Journal of Physical Chemistry B</i> , 2019, 123, 7204-7213.	2.6	45
10	On the relationship between quantum control landscape structure and optimization complexity. <i>Journal of Chemical Physics</i> , 2008, 128, 154117.	3.0	42
11	One-step femtosecond laser ablation synthesis of sub-30 nm gold nanoparticles stabilized by silica. <i>Applied Surface Science</i> , 2019, 475, 1048-1057.	6.1	41
12	Elucidating Strong Field Photochemical Reduction Mechanisms of Aqueous $[\text{AuCl}_4]^\ominus$ : Kinetics of Multiphoton Photolysis and Radical-Mediated Reduction. <i>Journal of Physical Chemistry A</i> , 2016, 120, 3562-3569.	2.5	36
13	Mechanism of Improved Au Nanoparticle Size Distributions Using Simultaneous Spatial and Temporal Focusing for Femtosecond Laser Irradiation of Aqueous $\text{KAuCl}_4$ . <i>Journal of Physical Chemistry C</i> , 2014, 118, 23986-23995.	3.1	33
14	Radical Chemistry in a Femtosecond Laser Plasma: Photochemical Reduction of $\text{Ag}^+$ in Liquid Ammonia Solution. <i>Molecules</i> , 2018, 23, 532.	3.8	32
15	Searching for quantum optimal control fields in the presence of singular critical points. <i>Physical Review A</i> , 2014, 90, .	2.5	29
16	Characterization of control noise effects in optimal quantum unitary dynamics. <i>Physical Review A</i> , 2014, 90, .	2.5	28
17	Manipulating molecules. <i>Nature Chemistry</i> , 2012, 4, 72-73.	13.6	27
18	Conserved Vibrational Coherence in the Ultrafast Rearrangement of 2-Nitrotoluene Radical Cation. <i>Journal of Physical Chemistry A</i> , 2019, 123, 1140-1152.	2.5	24

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19	Measurement of an Electronic Resonance in a Ground-State, Gas-Phase Acetophenone Cation via Strong-Field Mass Spectrometry. <i>Journal of Physical Chemistry Letters</i> , 2013, 4, 1587-1591.	4.6	23
20	Searching for quantum optimal controls under severe constraints. <i>Physical Review A</i> , 2015, 91, .	2.5	23
21	A Theoretical and Mass Spectrometry Study of Dimethyl Methylphosphonate: New Isomers and Cation Decay Channels in an Intense Femtosecond Laser Field. <i>Journal of Physical Chemistry A</i> , 2017, 121, 8414-8424.	2.5	22
22	Mechanism of Gold-Silver Alloy Nanoparticle Formation by Laser Coreduction of Gold and Silver Ions in Solution. <i>Journal of Physical Chemistry B</i> , 2021, 125, 907-917.	2.6	21
23	Optimal control of molecular fragmentation with homologous families of photonic reagents and chemical substrates. <i>Physical Chemistry Chemical Physics</i> , 2013, 15, 18012.	2.8	20
24	Gold Nanotriangle Formation through Strong-Field Laser Processing of Aqueous $\text{KAuCl}_4$ and Postirradiation Reduction by Hydrogen Peroxide. <i>Langmuir</i> , 2017, 33, 243-252.	3.5	19
25	Measurement of Ionic Resonances in Alkyl Phenyl Ketone Cations via Infrared Strong Field Mass Spectrometry. <i>Journal of Physical Chemistry A</i> , 2013, 117, 12374-12381.	2.5	18
26	Strong Field Adiabatic Ionization Prepares a Launch State for Coherent Control. <i>Journal of Physical Chemistry Letters</i> , 2014, 5, 4305-4309.	4.6	18
27	Dissociation dynamics of 3- and 4-nitrotoluene radical cations: Coherently driven $\text{NO}_2$ bond homolysis. <i>Journal of Chemical Physics</i> , 2018, 148, 134305.	3.0	17
28	Generation of nanomaterials by reactive laser-synthesis in liquid. <i>Science China: Physics, Mechanics and Astronomy</i> , 2022, 65, 1.	5.1	17
29	Controlling the dissociation dynamics of acetophenone radical cation through excitation of ground and excited state wavepackets. <i>Journal of Physics B: Atomic, Molecular and Optical Physics</i> , 2015, 48, 164002.	1.5	15
30	Controlling the morphology of copper-silica nanocomposites from laser ablation in liquid. <i>Applied Surface Science</i> , 2020, 510, 145037.	6.1	15
31	Fabrication of Gold-Silicon Nanostructured Surfaces with Reactive Laser Ablation in Liquid. <i>Langmuir</i> , 2020, 36, 10120-10129.	3.5	14
32	Radical cation spectroscopy of substituted alkyl phenyl ketones via tunnel ionization. <i>Chemical Physics</i> , 2014, 442, 81-85.	1.9	13
33	Controlling Dissociation of Alkyl Phenyl Ketone Radical Cations in the Strong-Field Regime through Hydroxyl Substitution Position. <i>Journal of Physical Chemistry A</i> , 2014, 118, 8170-8176.	2.5	12
34	Synthesis of Air-Stable Cu Nanoparticles Using Laser Reduction in Liquid. <i>Nanomaterials</i> , 2021, 11, 814.	4.1	12
35	Exploring control landscapes for laser-driven molecular fragmentation. <i>Journal of Chemical Physics</i> , 2013, 139, 144201.	3.0	11
36	Ultrafast coherent vibrational dynamics in dimethyl methylphosphonate radical cation. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 4636-4640.	2.8	11

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37	Deposition of Cubic Copper Nanoparticles on Silicon Laser-Induced Periodic Surface Structures via Reactive Laser Ablation in Liquid. <i>Langmuir</i> , 2021, 37, 3740-3750.	3.5	11
38	Exploring experimental fitness landscapes for chemical synthesis and property optimization. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 4266-4287.	2.8	10
39	Laser-assisted synthesis of gold-graphene oxide nanocomposites: effect of pulse duration. <i>Physical Chemistry Chemical Physics</i> , 2020, 22, 18294-18303.	2.8	10
40	Laser synthesis of uncapped palladium nanocatalysts. <i>Applied Surface Science</i> , 2021, 557, 149811.	6.1	10
41	Discovering predictive rules of chemistry from property landscapes. <i>Chemical Physics Letters</i> , 2013, 572, 1-12.	2.6	9
42	Systematic Trends in Photonic Reagent Induced Reactions in a Homologous Chemical Family. <i>Journal of Physical Chemistry A</i> , 2013, 117, 8205-8215.	2.5	9
43	Resolving the source of blue luminescence from alkyl-capped silicon nanoparticles synthesized by laser pulse ablation. <i>Journal of Materials Chemistry C</i> , 2016, 4, 6894-6899.	5.5	9
44	Coherent Vibrational and Dissociation Dynamics of Polyatomic Radical Cations. <i>Chemistry - A European Journal</i> , 2019, 25, 8431-8439.	3.3	9
45	NMR Landscapes for Chemical Shift Prediction. <i>Journal of Physical Chemistry A</i> , 2012, 116, 9142-9157.	2.5	8
46	Constrained control landscape for population transfer in a two-level system. <i>Physical Chemistry Chemical Physics</i> , 2015, 17, 3164-3178.	2.8	8
47	Formation of carbon nanospheres via ultrashort pulse laser irradiation of methane. <i>Materials Chemistry and Physics</i> , 2015, 156, 47-53.	4.0	8
48	Amorphous aluminum-carbide and aluminum-magnesium-carbide nanoparticles from gas phase activation of trimethylaluminum and octamethyldialuminummagnesium using simultaneous spatially and temporally focused ultrashort laser pulses. <i>Nano Structures Nano Objects</i> , 2016, 6, 1-4.	3.5	8
49	Mechanism of Nickel Phyllosilicate Formation by Laser Ablation in Liquid. <i>Journal of Physical Chemistry C</i> , 2020, 124, 13273-13282.	3.1	8
50	Fundamental Principles of Control Landscapes with Applications to Quantum Mechanics, Chemistry and Evolution. <i>Emergence, Complexity and Computation</i> , 2014, , 33-70.	0.3	7
51	From Neutral Aniline to Aniline Trication: A Computational and Experimental Study. <i>Journal of Physical Chemistry A</i> , 2020, 124, 3120-3134.	2.5	6
52	Using computational chemistry to design pump-probe schemes for measuring nitrobenzene radical cation dynamics. <i>Physical Chemistry Chemical Physics</i> , 2021, 23, 13338-13348.	2.8	6
53	Measurement of Ultrafast Vibrational Coherences in Polyatomic Radical Cations with Strong-Field Adiabatic Ionization. <i>Journal of Visualized Experiments</i> , 2018, , .	0.3	5
54	Probing Coherent Vibrations of Organic Phosphonate Radical Cations with Femtosecond Time-Resolved Mass Spectrometry. <i>Molecules</i> , 2019, 24, 509.	3.8	5

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55	Quantitative Analysis of Nitrotoluene Isomer Mixtures Using Femtosecond Time-Resolved Mass Spectrometry. <i>Analytical Chemistry</i> , 2021, 93, 11268-11274.	6.5	5
56	Applications of Shaped Femtosecond near-IR Laser Irradiation in the Generation of Metal Nanoparticles. <i>Materials Research Society Symposia Proceedings</i> , 2014, 1654, 1.	0.1	4
57	Au Nanoparticle Synthesis Via Femtosecond Laser-Induced Photochemical Reduction of $[AuCl_4]^-$ . , 2018, , .		4
58	Dissociation of Singly and Multiply Charged Nitromethane Cations: Femtosecond Laser Mass Spectrometry and Theoretical Modeling. <i>Journal of Physical Chemistry A</i> , 2020, 124, 7427-7438.	2.5	4
59	Coherent Control of Molecular Dissociation by Selective Excitation of Nuclear Wave Packets. <i>Frontiers in Chemistry</i> , 2022, 10, 859095.	3.6	4
60	Association analysis of CHMP1.5 genetic variation and bipolar disorder. <i>Psychiatric Genetics</i> , 2005, 15, 211-214.	1.1	3
61	Laboratory transferability of optimally shaped laser pulses for quantum control. <i>Journal of Chemical Physics</i> , 2014, 140, 074302.	3.0	2
62	Nucleation of Gold Nanoparticles in a Solution via Laser Hell: Simulation and Experiments. <i>International Journal of Nanoscience</i> , 2019, 18, 1940059.	0.7	2
63	Superhalogens Among 3d-Metal Compounds: $M_4F_4$ , $M_6F_6$ , $M_{12}F_{12}$ , and $M_{18}F_{18}$ ( $M = Zn$ ). <i>Journal of Physical Chemistry A</i> , 2021, 125, 4409-4419.	2.5	2
64	Mechanisms of Formation of Nanoparticles in Aqueous Salt Solutions Under the Action of a High-Power Periodic Laser Radiation. <i>Journal of Engineering Physics and Thermophysics</i> , 2019, 92, 369-375.	0.6	1
65	Frontispiece: Coherent Vibrational and Dissociation Dynamics of Polyatomic Radical Cations. <i>Chemistry - A European Journal</i> , 2019, 25, .	3.3	1
66	Homocoupling and Heterocoupling of Grignard Perfluorobenzene Reagents via Aryne Intermediates: A DFT Study. <i>Journal of Physical Chemistry A</i> , 2019, 123, 9693-9700.	2.5	1
67	Ultrafast Dynamics of Nitro-Nitrite Rearrangement and Dissociation in Nitromethane Cation. <i>Journal of Physical Chemistry A</i> , 2022, , .	2.5	1
68	Conformer-Specific Dissociation Dynamics in Dimethyl Methylphosphonate Radical Cation. <i>Molecules</i> , 2022, 27, 2269.	3.8	1