Tiago Buckup

List of Publications by Year
in descending order

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136 papers	2,645 citations	147726 31 h-index	223716 46 g-index
138 all docs	138 docs citations	138 times ranked	2457 citing authors

#	Article	IF	Citations
1	Pumpâ˜Depleteâ˜Probe Spectroscopy and the Puzzle of Carotenoid Dark States. Journal of Physical Chemistry B, 2004, 108, 3320-3325.	1.2	115
2	Coherent Control for Spectroscopy and Manipulation of Biological Dynamics. ChemPhysChem, 2005, 6, 850-857.	1.0	111
3	Micromirror SLM for femtosecond pulse shaping in the ultraviolet. Applied Physics B: Lasers and Optics, 2003, 76, 711-714.	1.1	99
4	Acceleration of Singlet Fission in an Aza-Derivative of TIPS-Pentacene. Journal of Physical Chemistry Letters, 2014, 5, 2425-2430.	2.1	86
5	Multichannel Carotenoid Deactivation in Photosynthetic Light Harvesting as Identified by an Evolutionary Target Analysis. Biophysical Journal, 2003, 85, 442-450.	0.2	84
6	Highly sensitive single-beam heterodyne coherent anti-Stokes Raman scattering. Optics Letters, 2006, 31, 2495.	1.7	83
7	Pump-Degenerate Four Wave Mixing as a Technique for Analyzing Structural and Electronic Evolution:Â Multidimensional Time-Resolved Dynamics near a Conical Intersection. Journal of Physical Chemistry A, 2007, 111, 10517-10529.	1.1	75
8	Pump-probe and pump-deplete-probe spectroscopies on carotenoids with N=9â€“15 conjugated bonds. Journal of Chemical Physics, 2006, 125, 194505.	1.2	71
9	Controlling the efficiency of an artificial light-harvesting complex. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 7641-7646.	3.3	67
10	Unveiling Singlet Fission Mediating States in TIPS-pentacene and its Aza Derivatives. Journal of Physical Chemistry A, 2015, 119, 6602-6610.	1.1	65
11	Mapping multidimensional excited state dynamics using pump-impulsive-vibrational-spectroscopy and pump-degenerate-four-wave-mixing. Physical Chemistry Chemical Physics, 2013, 15, 14487.	1.3	58
12	Bio-orthogonal Red and Far-Red Fluorogenic Probes for Wash-Free Live-Cell and Super-resolution Microscopy. ACS Central Science, 2021, 7, 1561-1571.	5.3	57
13	Lightâ€Induced Protein Dimerization by Oneâ€and Twoâ€Photon Activation of Gibberellic Acid Derivatives in Living Cells. Angewandte Chemie - International Edition, 2015, 54, 2825-2829.	7.2	54
14	Multidimensional Time-Resolved Spectroscopy of Vibrational Coherence in Biopolyenes. Annual Review of Physical Chemistry, 2014, 65, 39-57.	4.8	50
15	Ultrafast branching in the excited state of coumarin and umbelliferone. Physical Chemistry Chemical Physics, 2013, 15, 17846.	1.3	48
16	Rigid tetrazine fluorophore conjugates with fluorogenic properties in the inverse electron demand Dielsâ€Alder reaction. Organic and Biomolecular Chemistry, 2014, 12, 4177-4185.	1.5	48
17	Multidimensional spectroscopy of Î²-carotene: Vibrational cooling in the excited state. Archives of Biochemistry and Biophysics, 2009, 483, 219-223.	1.4	45
18	Chemoselective imaging of mouse brain tissue via multiplex CARS microscopy. Biomedical Optics Express, 2011, 2, 2110.	1.5	45

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19	In situ broadband pulse compression for multiphoton microscopy using a shaper-assisted collinear SPIDER. Optics Letters, 2006, 31, 1154.	1.7	43
20	Direct Observation of a Dark State in Lycopene Using Pump-DFWM. Journal of Physical Chemistry B, 2011, 115, 8328-8337.	1.2	40
21	Tailoring Ultrafast Singlet Fission by the Chemical Modification of Phenazinothiadiazoles. Journal of the American Chemical Society, 2019, 141, 8834-8845.	6.6	39
22	Singlet versus triplet dynamics of Î²-carotene studied by quantum control spectroscopy. Journal of Photochemistry and Photobiology A: Chemistry, 2006, 180, 314-321.	2.0	38
23	Enhancement of molecular modes by electronically resonant multipulse excitation: Further progress towards mode selective chemistry. Journal of Chemical Physics, 2006, 125, 061101.	1.2	38
24	First hyperpolarizability in a new benzimidazole derivative. Chemical Physics, 2004, 305, 115-121.	0.9	37
25	Shaper-assisted collinear SPIDER: fast and simple broadband pulse compression in nonlinear microscopy. Journal of the Optical Society of America B: Optical Physics, 2007, 24, 1091.	0.9	36
26	Heterodyne singleâ€beam CARS microscopy. Journal of Raman Spectroscopy, 2009, 40, 809-816.	1.2	36
27	First hyperpolarizability in proton-transfer benzoxazoles: computer-aided design, synthesis and study of a new model compound. Chemical Physics, 2001, 273, 1-10.	0.9	35
28	Quantum control spectroscopy of vibrational modes: Comparison of control scenarios for ground and excited states in Î²-carotene. Chemical Physics, 2008, 350, 220-229.	0.9	35
29	Groundâ€and Excitedâ€State Vibrational Coherence Dynamics in Bacteriorhodopsin Probed With Degenerate Fourâ€Waveâ€Mixing Experiments. ChemPhysChem, 2011, 12, 1851-1859.	1.0	34
30	Lightâ€Induced Solubility Modulation of Polyfluorene To Enhance the Performance of OLEDs. Angewandte Chemie - International Edition, 2015, 54, 14545-14548.	7.2	34
31	Control of excited-state population and vibrational coherence with shaped-resonant and near-resonant excitation. Journal of Physics B: Atomic, Molecular and Optical Physics, 2008, 41, 074024.	0.6	31
32	Hyperspectral data processing for chemoselective multiplex coherent anti-Stokes Raman scattering microscopy of unknown samples. Journal of Biomedical Optics, 2011, 16, 021105.	1.4	29
33	Multimodal nonlinear optical microscopy with shaped 10 fs pulses. Optics Express, 2014, 22, 28790.	1.7	29
34	Time-resolved optical Kerr-effect investigation on CS2/polystyrene mixtures. Journal of Chemical Physics, 2005, 123, 054509.	1.2	28
35	Carotenoid deactivation in an artificial light-harvesting complex via a vibrationally hot ground state. Chemical Physics, 2009, 357, 181-187.	0.9	28
36	Exploring the potential of tailored spectral focusing. Journal of the Optical Society of America B: Optical Physics, 2016, 33, 1482.	0.9	28

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37	Coherent High-Frequency Vibrational Dynamics in the Excited Electronic State of All-Trans Retinal Derivatives. Journal of Physical Chemistry Letters, 2013, 4, 383-387.	2.1	26
38	Femtosecond Raman time-resolved molecular spectroscopy. Comptes Rendus Physique, 2004, 5, 215-229.	0.3	25
39	Ultrafast Time-Resolved Spectroscopy of Diarylethene-Based Photoswitchable Deoxyuridine Nucleosides. Journal of Physical Chemistry Letters, 2015, 6, 4717-4721.	2.1	24
40	Singlet Fission in Tetraaza-TIPS-Pentacene Oligomers: From fs Excitation to Î¼s Triplet Decay via the Biexcitonic State. Journal of Physical Chemistry B, 2019, 123, 10780-10793.	1.2	24
41	Photocleavage of coumarin dimers studied by femtosecond UV transient absorption spectroscopy. Physical Chemistry Chemical Physics, 2017, 19, 4597-4606.	1.3	23
42	Vibrational analysis of excited and ground electronic states of all-trans retinal protonated Schiff-bases. Physical Chemistry Chemical Physics, 2011, 13, 21402.	1.3	22
43	Enhancement of coherent anti-Stokes Raman signal via tailored probing in spectral focusing. Optics Letters, 2015, 40, 5204.	1.7	22
44	Determination of collisional line broadening coefficients with femtosecond time-resolved CARS. Journal of Raman Spectroscopy, 2002, 33, 866-871.	1.2	21
45	Ultrafast Energy Transfer Dynamics of a Bioinspired Dyad Molecule. Journal of Physical Chemistry B, 2008, 112, 2678-2685.	1.2	21
46	Evidence for the Two-State-Two-Mode model in retinal protonated Schiff-bases from pump degenerate four-wave-mixing experiments. Physical Chemistry Chemical Physics, 2012, 14, 13979.	1.3	21
47	Multiplexing single-beam coherent anti-stokes Raman spectroscopy with heterodyne detection. Applied Physics Letters, 2012, 100, .	1.5	20
48	Multiplex coherent anti-Stokes Raman microspectroscopy with tailored Stokes spectrum. Optics Letters, 2010, 35, 3721.	1.7	19
49	Vibronic coupling in the excited-states of carotenoids. Physical Chemistry Chemical Physics, 2016, 18, 11443-11453.	1.3	19
50	Generation of phase-controlled ultraviolet pulses and characterization by a simple autocorrelator setup. Journal of the Optical Society of America B: Optical Physics, 2009, 26, 1538.	0.9	18
51	Full characterization of the third-order nonlinear susceptibility using a single-beam coherent anti-Stokes Raman scattering setup. Optics Letters, 2012, 37, 4239.	1.7	18
52	Effect of point mutations on the ultrafast photo-isomerization of Anabaena sensory rhodopsin. Faraday Discussions, 2018, 207, 55-75.	1.6	18
53	Signatures and control of strong-field dynamics in a complex system. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 15613-15618.	3.3	17
54	Mapping the ultrafast vibrational dynamics of all-transand 13-cisretinal isomerization in Anabaena Sensory Rhodopsin. Physical Chemistry Chemical Physics, 2018, 20, 30159-30173.	1.3	16

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55	The photoinduced cleavage of coumarin dimers studied with femtosecond and nanosecond two-photon excitation. Chemical Physics Letters, 2007, 439, 308-312.	1.2	15
56	Ultrafast multiphoton transient absorption of Î²-carotene. Chemical Physics, 2010, 373, 38-44.	0.9	15
57	Selective nonlinear response preparation using femtosecond spectrally resolved four-wave-mixing. Journal of Chemical Physics, 2011, 135, 224505.	1.2	15
58	Chemical imaging of lignocellulosic biomass by CARS microscopy. Journal of Biophotonics, 2014, 7, 126-134.	1.1	15
59	Oxygen-catalysed sequential singlet fission. Nature Communications, 2019, 10, 5202.	5.8	15
60	Optimisation of two-photon induced cleavage of molecular linker systems for drug delivery. Journal of Photochemistry and Photobiology A: Chemistry, 2010, 210, 188-192.	2.0	14
61	Unravelling the Kinetic Model of Photochemical Reactions via Deep Learning. Journal of Physical Chemistry B, 2020, 124, 6358-6368.	1.2	14
62	A General control mechanism of energy flow in the excited state of polyenic biochromophores. Faraday Discussions, 2011, 153, 213.	1.6	13
63	Mapping Impurity of Single-Walled Carbon Nanotubes in Bulk Samples with Multiplex Coherent Anti-Stokes Raman Microscopy. Nano Letters, 2013, 13, 697-702.	4.5	13
64	Highlighting short-lived excited electronic states with pump-degenerate-four-wave-mixing. Journal of Chemical Physics, 2013, 139, 074202.	1.2	13
65	Multiplex coherent anti-Stokes Raman scattering microspectroscopy of brain tissue with higher ranking data classification for biomedical imaging. Journal of Biomedical Optics, 2017, 22, 066005.	1.4	13
66	Ultrafast Singlet Fission in Rigid Azaarene Dimers with Negligible Orbital Overlap. Journal of Physical Chemistry B, 2020, 124, 9163-9174.	1.2	12
67	On the paradigm of coherent control: the phase-dependent lightâ€“matter interaction in the shaping window. New Journal of Physics, 2009, 11, 105049.	1.2	11
68	Emission Turn-On and Solubility Turn-Off in Conjugated Polymers: One- and Two-Photon-Induced Removal of Fluorescence-Quenching Solubilizing Groups. Macromolecular Rapid Communications, 2015, 36, 31-37.	2.0	11
69	Multidimensional Vibrational Coherence Spectroscopy. Topics in Current Chemistry, 2018, 376, 35.	3.0	11
70	Shaper-assisted full-phase characterization of UV pulses without a spectrometer. Optics Letters, 2010, 35, 3916.	1.7	10
71	Two-step kinetic model of the self-assembly mechanism for diphenylalanine micro/nanotube formation. Physical Chemistry Chemical Physics, 2017, 19, 31647-31654.	1.3	10
72	Evaluation of Single-Reference DFT-Based Approaches for the Calculation of Spectroscopic Signatures of Excited States Involved in Singlet Fission. Journal of Physical Chemistry A, 2020, 124, 8446-8460.	1.1	10

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73	Elimination of twoâ€photon excited fluorescence using a singleâ€beam coherent antiâ€Stokes Raman scattering setup. Journal of Raman Spectroscopy, 2013, 44, 1379-1384.	1.2	9
74	Charge Transfer from Photoexcited Semiconducting Single-Walled Carbon Nanotubes to Wide-Bandgap Wrapping Polymer. Journal of Physical Chemistry C, 2021, 125, 8125-8136.	1.5	9
75	A Quantum Control Spectroscopy Approach by Direct UV Femtosecond Pulse Shaping. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 449-459.	1.9	8
76	Substituting Coumarins for Quinolinones: Altering the Cycloreversion Potential Energy Landscape. Journal of Physical Chemistry A, 2018, 122, 7587-7597.	1.1	8
77	Ultrafast ring closing of a diarylethene-based photoswitchable nucleoside. Physical Chemistry Chemical Physics, 2018, 20, 22867-22876.	1.3	8
78	Fast singleâ€beamâ€CARS imaging scheme based on in silico optimization of excitation phases. Journal of Raman Spectroscopy, 2015, 46, 679-682.	1.2	7
79	Ultrafast Singlet Fission and Intersystem Crossing in Halogenated Tetraazaperopyrenes. Journal of Physical Chemistry A, 2020, 124, 7857-7868.	1.1	7
80	Vibrational Coherence Spectroscopy Identifies Ultrafast Branching in an Iron(II) Sensitizer. Journal of Physical Chemistry Letters, 2021, 12, 8560-8565.	2.1	7
81	Performance of a sound card as data acquisition system and a lock-in emulated by software in capillary electrophoresis. Talanta, 2007, 71, 1998-2002.	2.9	6
82	Microanalytical nonlinear single-beam spectroscopy combining an unamplified femtosecond fibre laser, pulse shaping and interferometry. Applied Physics B: Lasers and Optics, 2008, 91, 213-217.	1.1	6
83	Minimization of 1/f^n phase noise in liquid crystal masks for reliable femtosecond pulse shaping. Optics Express, 2017, 25, 23376.	1.7	6
84	Point Mutation of Anabaena Sensory Rhodopsin Enhances Ground-State Hydrogen Out-of-Plane Wag Raman Activity. Journal of Physical Chemistry Letters, 2019, 10, 1012-1017.	2.1	6
85	Diffusion-Controlled Singlet Fission in a Chlorinated Phenazinothiadiazole by Broadband Femtosecond Transient Absorption. Journal of Physical Chemistry B, 2020, 124, 10186-10194.	1.2	6
86	Excited State Vibrational Spectra of All-trans Retinal Derivatives in Solution Revealed By Pump-DFWM Experiments. Journal of Physical Chemistry B, 2018, 122, 12271-12281.	1.2	5
87	Introduction to State-of-the-Art Multidimensional Time-Resolved Spectroscopy Methods. Topics in Current Chemistry, 2018, 376, 28.	3.0	5
88	Experimental and numerical investigation of a phase-only control mechanism in the linear intensity regime. Journal of Chemical Physics, 2018, 148, 214310.	1.2	5
89	Energy Transfer in Aqueously Dispersed Organic Semiconductor Nanoparticles. Journal of Physical Chemistry C, 2020, 124, 27946-27953.	1.5	5
90	Structure Set in Stone: Designing Rigid Linkers to Control the Efficiency of Intramolecular Singlet Fission. Journal of Physical Chemistry B, 2021, 125, 13235-13245.	1.2	5

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91	Parametrically amplified ultrashort pulses from a shaped photonic crystal fiber supercontinuum. Optics Letters, 2008, 33, 186.	1.7	4
92	Vibronic Coupling in Excited Electronic States Investigated with Resonant 2D Raman Spectroscopy. EPJ Web of Conferences, 2013, 41, 05018.	0.1	4
93	Multidimensional Vibrational Coherence Spectroscopy. Topics in Current Chemistry Collections, 2019, , 207-245.	0.2	4
94	Sub-picosecond C<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mo>=</mml:mo></mml:math>C bond photo-isomerization: evidence for the role ofÂexcited state mixing. Comptes Rendus Physique, 2021, 22, 111-138.	0.3	4
95	Shaper-assisted ultraviolet cross correlator. Optics Letters, 2010, 35, 1816.	1.7	3
96	Acousto-optic modulator based dispersion scan for phase characterization and shaping of femtosecond mid-infrared pulses. Optics Express, 2021, 29, 20970.	1.7	3
97	Energy flow in carotenoids, studied with pump-deplete-probe, multiphoton and coherent control spectroscopy. Springer Series in Chemical Physics, 2005, , 368-370.	0.2	2
98	On the Investigation of Excited State Dynamics with (Pump-)Degenerate Four Wave Mixing. Springer Series in Chemical Physics, 2014, , 205-230.	0.2	2
99	Energy flow in photosynthetic light harvesting: spectroscopy and control. , 2004, , 91-94.		2
100	Flexible pulse shaping for sum frequency microspectroscopies. Journal of the Optical Society of America B: Optical Physics, 2020, 37, 117.	0.9	2
101	Generation and characterization of phase and amplitude modulated femtosecond UV pulses. , 2010, , .		1
102	Resonant Two-Photon Excitation Pathways During Retinal-Isomerization in Bacteriorhodopsin. EPJ Web of Conferences, 2013, 41, 07019.	0.1	1
103	Mapping the ultrafast vibrational dynamics of all-trans and 13-Cis retinal isomerization in Anabaena Sensory Rhodopsin. EPJ Web of Conferences, 2019, 205, 10001.	0.1	1
104	Unveiling the concentration dependent direct triplet formation via singlet fission in a tetracene derivative. EPJ Web of Conferences, 2019, 205, 09031.	0.1	1
105	Broadband mid-infrared phase retrieval for nonlinear microscopy. Optics Letters, 2021, 46, 5012.	1.7	1
106	Pump-probe and pump-deplete-probe spectroscopy on carotenoids with N=9-15. , 2004, , 453-456.		1
107	Enhancement of Raman Modes in Complex Molecules by Coherent Control. Springer Series in Chemical Physics, 2007, , 303-305.	0.2	1
108	Evidence for a Polariton-Mediated Biexciton Transition in Single-Walled Carbon Nanotubes. ACS Photonics, 0, , .	3.2	1

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109	Time-resolved Hyper-Rayleigh Scattering. , 2004, , FB3.		0
110	Ultrafast dynamics of biomolecules studied by quantum control. , 2005, , .		0
111	Shaper-assisted collinear SPIDER for broadband pulse compression in multiphoton microscopy. , 2006, , .		0
112	Parametric amplification and phase management of arbitrarily shaped PCF-supercontinuum. , 2007, , .		0
113	Quantum control spectroscopy (QCS) with a micro-electro-mechanical-system (MEMS). , 2009, , .		0
114	Broadband Coherent Anti-Stokes Raman Microspectroscopy With Shaped Femtosecond Pulses. , 2011, , .		0
115	High frequency vibrational coherences and coupling in the excited state of polyenic biochromophores. , 2013, , .		0
116	Using a single-beam-CARS setup for the full characterization of the third-order susceptibility and elimination of strong two-photon excited fluorescence. , 2013, , .		0
117	Ultrafast Interaction of Dark and Bright Electronic States in Open-Chain Carotenoids Investigated by Pump-DFWM. , 2014, , .		0
118	Quantum control spectroscopy: Nonlinear (micro-) spectroscopy with tailored pulses. , 2014, , .		0
119	Exploring the Potential of Tailored Probing for a Flexible Coherent Raman Excitation Scheme. , 2016, , .		0
120	Homodyne Scanning and Heterodyne Multiplex Sum Frequency Spectroscopy in a Shaper Based Nonlinear Microscope. , 2019, , .		0
121	Tailoring ultrafast singlet fission by structural modification of phenazinothiadiazoles. EPJ Web of Conferences, 2019, 205, 09013.	0.1	0
122	Isomerization Dynamics of Wild Type and Mutated Anabaena Sensory Rhodopsin Mapped by Time-Resolved Coherent Raman Spectroscopy. , 2019, , .		0
123	Introduction to State-of-the-Art Multidimensional Time-Resolved Spectroscopy Methods. Topics in Current Chemistry Collections, 2019, , 1-25.	0.2	0
124	Shaping and Phase Characterization of Ultrashort Pulses in the Mid-Infrared by AOM Shaper-Based D-Scan. , 2021, , .		0
125	Multiphoton quantum control spectroscopy of ÃŸ-carotene. , 2006, , .		0
126	Enhancement of Raman Modes in Complex Molecules by Coherent Control. , 2006, , .		0

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127	Coherent control of the efficiency of an artificial light-harvesting complex. Springer Series in Chemical Physics, 2009, , 454-456.	0.2	0
128	Early Time Vibrationally Hot Ground-State Dynamics in Î²-Carotene Investigated with Pump-Degenerate Four-Wave Mixing (Pump-DFWM). Springer Series in Chemical Physics, 2009, , 442-444.	0.2	0
129	Interferometrically Detected Femtosecond CARS in a Single Beam of Shaped Femtosecond Pulses. Springer Series in Chemical Physics, 2009, , 1009-1011.	0.2	0
130	Coherent control of matter waves passing through a conical intersection in Î²-carotene. Springer Series in Chemical Physics, 2009, , 436-438.	0.2	0
131	Control of Excited-State Population and Vibrational Coherence with Shaped-Resonant and Near-Resonant Excitation. Springer Series in Chemical Physics, 2009, , 460-462.	0.2	0
132	Coherently Controlled Release of Drugs in Ophthalmology. Springer Series in Chemical Physics, 2009, , 574-576.	0.2	0
133	New Insights into the Excited State Relaxation Network of Carotenoids. , 2010, , .		0
134	Coherent Control for Molecular Ultrafast Spectroscopy. NATO Science for Peace and Security Series B: Physics and Biophysics, 2010, , 37-55.	0.2	0
135	Initial relaxation dynamics of retinal protonated Schiff-bases determined by Pump Degenerate Four Wave Mixing. , 2010, , .		0
136	Ultrafast Interaction of Dark and Bright Electronic States in Open-Chain Carotenoids Investigated by Pump-DFWM. Springer Proceedings in Physics, 2015, , 440-443.	0.1	0