Marcus Motzkus

List of Publications by Year
in descending order

77 papers	4,480 citations	126907 33 h-index	98798 67 g-index
77 all docs	77 docs citations	77 times ranked	2941 citing authors

#	Article	IF	Citations
1	Whither the Future of Controlling Quantum Phenomena?. Science, 2000, 288, 824-828.	12.6	1,045
2	Quantum control of energy flow in light harvesting. Nature, 2002, 417, 533-535.	27.8	648
3	Optimal control of molecular states in a learning loop with a parameterization in frequency and time domain. Chemical Physics Letters, 2000, 326, 445-453.	2.6	192
4	Evolutionary algorithms and their application to optimal control studies. Physical Review A, 2001, 64, .	2.5	181
5	Femtosecond Real-Time Probing of Reactions. 19. Nonlinear (DFWM) Techniques for Probing Transition States of Uni- and Bimolecular Reactions. The Journal of Physical Chemistry, 1996, 100, 5620-5633.	2.9	138
6	Pumpâ^'Depleteâ^'Probe Spectroscopy and the Puzzle of Carotenoid Dark States. Journal of Physical Chemistry B, 2004, 108, 3320-3325.	2.6	115
7	Micromirror SLM for femtosecond pulse shaping in the ultraviolet. Applied Physics B: Lasers and Optics, 2003, 76, 711-714.	2.2	99
8	Acceleration of Singlet Fission in an Aza-Derivative of TIPS-Pentacene. Journal of Physical Chemistry Letters, 2014, 5, 2425-2430.	4.6	86
9	Multichannel Carotenoid Deactivation in Photosynthetic Light Harvesting as Identified by an Evolutionary Target Analysis. Biophysical Journal, 2003, 85, 442-450.	0.5	84
10	Highly sensitive single-beam heterodyne coherent anti-Stokes Raman scattering. Optics Letters, 2006, 31, 2495.	3.3	83
11	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.	2.5	75
12	Pump-probe and pump-deplete-probe spectroscopies on carotenoids with N=9â€“15 conjugated bonds. Journal of Chemical Physics, 2006, 125, 194505.	3.0	71
13	Observation of all-trans-Î²-carotene wavepacket motion on the electronic ground and excited dark state using degenerate four-wave mixing (DFWM) and pumpâ€“DFWM. Chemical Physics Letters, 2005, 402, 283-288.	2.6	68
14	Rapid polymer blend imaging with quantitative broadband multiplex CARS microscopy. Journal of Raman Spectroscopy, 2007, 38, 916-926.	2.5	67
15	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.	7.1	67
16	Unveiling Singlet Fission Mediating States in TIPS-pentacene and its Aza Derivatives. Journal of Physical Chemistry A, 2015, 119, 6602-6610.	2.5	65
17	A new high-resolution femtosecond pulse shaper. Applied Physics B: Lasers and Optics, 2001, 72, 627-630.	2.2	61
18	Enhancement of Raman modes by coherent control in Î²-carotene. Chemical Physics Letters, 2006, 421, 523-528.	2.6	58

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19	Mapping multidimensional excited state dynamics using pump-impulsive-vibrational-spectroscopy and pump-degenerate-four-wave-mixing. Physical Chemistry Chemical Physics, 2013, 15, 14487.	2.8	58
20	Time-resolved two color single-beam CARS employing supercontinuum and femtosecond pulse shaping. Optics Communications, 2006, 264, 488-493.	2.1	52
21	Multidimensional Time-Resolved Spectroscopy of Vibrational Coherence in Biopolyenes. Annual Review of Physical Chemistry, 2014, 65, 39-57.	10.8	50
22	Ultrafast branching in the excited state of coumarin and umbelliferone. Physical Chemistry Chemical Physics, 2013, 15, 17846.	2.8	48
23	Multidimensional spectroscopy of Î²-carotene: Vibrational cooling in the excited state. Archives of Biochemistry and Biophysics, 2009, 483, 219-223.	3.0	45
24	Chemoselective imaging of mouse brain tissue via multiplex CARS microscopy. Biomedical Optics Express, 2011, 2, 2110.	2.9	45
25	In situ broadband pulse compression for multiphoton microscopy using a shaper-assisted collinear SPIDER. Optics Letters, 2006, 31, 1154.	3.3	43
26	Direct Observation of a Dark State in Lycopene Using Pump-DFWM. Journal of Physical Chemistry B, 2011, 115, 8328-8337.	2.6	40
27	Tailoring Ultrafast Singlet Fission by the Chemical Modification of Phenazinothiadiazoles. Journal of the American Chemical Society, 2019, 141, 8834-8845.	13.7	39
28	Singlet versus triplet dynamics of Î²-carotene studied by quantum control spectroscopy. Journal of Photochemistry and Photobiology A: Chemistry, 2006, 180, 314-321.	3.9	38
29	Enhancement of molecular modes by electronically resonant multipulse excitation: Further progress towards mode selective chemistry. Journal of Chemical Physics, 2006, 125, 061101.	3.0	38
30	Time-resolving molecular vibration for microanalytics: single laser beam nonlinear Raman spectroscopy in simulation and experiment. Physical Chemistry Chemical Physics, 2008, 10, 681-691.	2.8	37
31	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.	2.1	36
32	Heterodyne singleâ€beam CARS microscopy. Journal of Raman Spectroscopy, 2009, 40, 809-816.	2.5	36
33	Quantum control spectroscopy of vibrational modes: Comparison of control scenarios for ground and excited states in Î²-carotene. Chemical Physics, 2008, 350, 220-229.	1.9	35
34	Groundâ€and Excitedâ€State Vibrational Coherence Dynamics in Bacteriorhodopsin Probed With Degenerate Fourâ€Waveâ€Mixing Experiments. ChemPhysChem, 2011, 12, 1851-1859.	2.1	34
35	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.	1.5	31
36	Hyperspectral data processing for chemoselective multiplex coherent anti-Stokes Raman scattering microscopy of unknown samples. Journal of Biomedical Optics, 2011, 16, 021105.	2.6	29

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37	Multimodal nonlinear optical microscopy with shaped 10 fs pulses. Optics Express, 2014, 22, 28790.	3.4	29
38	Exploring the potential of tailored spectral focusing. Journal of the Optical Society of America B: Optical Physics, 2016, 33, 1482.	2.1	28
39	Coherent High-Frequency Vibrational Dynamics in the Excited Electronic State of All-Trans Retinal Derivatives. Journal of Physical Chemistry Letters, 2013, 4, 383-387.	4.6	26
40	Ultrafast Time-Resolved Spectroscopy of Diarylethene-Based Photoswitchable Deoxyuridine Nucleosides. Journal of Physical Chemistry Letters, 2015, 6, 4717-4721.	4.6	24
41	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.	2.6	24
42	Photocleavage of coumarin dimers studied by femtosecond UV transient absorption spectroscopy. Physical Chemistry Chemical Physics, 2017, 19, 4597-4606.	2.8	23
43	Vibrational analysis of excited and ground electronic states of all-trans retinal protonated Schiff-bases. Physical Chemistry Chemical Physics, 2011, 13, 21402.	2.8	22
44	Enhancement of coherent anti-Stokes Raman signal via tailored probing in spectral focusing. Optics Letters, 2015, 40, 5204.	3.3	22
45	Molecular discrimination of a mixture with single-beam Raman control. Journal of Chemical Physics, 2007, 127, 144514.	3.0	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.	2.8	21
47	Multiplexing single-beam coherent anti-stokes Raman spectroscopy with heterodyne detection. Applied Physics Letters, 2012, 100, .	3.3	20
48	P-Protected Diphosphadibenzo[a,e]pentalenes and Their Mono- and Dicationic P-Bridged Ladder Stilbenes. Organic Letters, 2019, 21, 2033-2038.	4.6	20
49	Vibronic coupling in the excited-states of carotenoids. Physical Chemistry Chemical Physics, 2016, 18, 11443-11453.	2.8	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.	2.1	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.	3.3	18
52	The photoinduced cleavage of coumarin dimers studied with femtosecond and nanosecond two-photon excitation. Chemical Physics Letters, 2007, 439, 308-312.	2.6	15
53	Ultrafast multiphoton transient absorption of Î²-carotene. Chemical Physics, 2010, 373, 38-44.	1.9	15
54	Selective nonlinear response preparation using femtosecond spectrally resolved four-wave-mixing. Journal of Chemical Physics, 2011, 135, 224505.	3.0	15

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55	Oxygen-catalysed sequential singlet fission. Nature Communications, 2019, 10, 5202.	12.8	15
56	Optimisation of two-photon induced cleavage of molecular linker systems for drug delivery. Journal of Photochemistry and Photobiology A: Chemistry, 2010, 210, 188-192.	3.9	14
57	Invited Article: Coherent Raman and mid-IR microscopy using shaped pulses in a single-beam setup. APL Photonics, 2018, 3, .	5.7	14
58	Highlighting short-lived excited electronic states with pump-degenerate-four-wave-mixing. Journal of Chemical Physics, 2013, 139, 074202.	3.0	13
59	On the paradigm of coherent control: the phase-dependent lightâ€“matter interaction in the shaping window. New Journal of Physics, 2009, 11, 105049.	2.9	11
60	Shaper-assisted full-phase characterization of UV pulses without a spectrometer. Optics Letters, 2010, 35, 3916.	3.3	10
61	Two-step kinetic model of the self-assembly mechanism for diphenylalanine micro/nanotube formation. Physical Chemistry Chemical Physics, 2017, 19, 31647-31654.	2.8	10
62	Elimination of twoâ€photon excited fluorescence using a singleâ€beam coherent antiâ€Stokes Raman scattering setup. Journal of Raman Spectroscopy, 2013, 44, 1379-1384.	2.5	9
63	Substituting Coumarins for Quinolinones: Altering the Cycloreversion Potential Energy Landscape. Journal of Physical Chemistry A, 2018, 122, 7587-7597.	2.5	8
64	Ultrafast ring closing of a diarylethene-based photoswitchable nucleoside. Physical Chemistry Chemical Physics, 2018, 20, 22867-22876.	2.8	8
65	Fast singleâ€beamâ€CARS imaging scheme based on in silico optimization of excitation phases. Journal of Raman Spectroscopy, 2015, 46, 679-682.	2.5	7
66	Ultrafast Singlet Fission and Intersystem Crossing in Halogenated Tetraazaperopyrenes. Journal of Physical Chemistry A, 2020, 124, 7857-7868.	2.5	7
67	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.	2.2	6
68	Minimization of 1/f^n phase noise in liquid crystal masks for reliable femtosecond pulse shaping. Optics Express, 2017, 25, 23376.	3.4	6
69	Diffusion-Controlled Singlet Fission in a Chlorinated Phenazinothiadiazole by Broadband Femtosecond Transient Absorption. Journal of Physical Chemistry B, 2020, 124, 10186-10194.	2.6	6
70	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.	2.6	5
71	Experimental and numerical investigation of a phase-only control mechanism in the linear intensity regime. Journal of Chemical Physics, 2018, 148, 214310.	3.0	5
72	Flexible and broadly tunable infrared light source based on shaped sub-10-fs pulses for a multimodal microscopy setup. Optics Letters, 2018, 43, 2054.	3.3	5

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73	On the Investigation of Excited State Dynamics with (Pump-)Degenerate Four Wave Mixing. Springer Series in Chemical Physics, 2014, , 205-230.	0.2	2
74	Flexible pulse shaping for sum frequency microspectroscopies. Journal of the Optical Society of America B: Optical Physics, 2020, 37, 117.	2.1	2
75	Ultrafast Interaction of Dark and Bright Electronic States in Open-Chain Carotenoids Investigated by Pump-DFWM. , 2014, , .		0
76	Shaper-based infrared spectroscopy in a nonlinear Raman setup. EPJ Web of Conferences, 2019, 205, 03016.	0.3	0
77	Ultrafast Interaction of Dark and Bright Electronic States in Open-Chain Carotenoids Investigated by Pump-DFWM. Springer Proceedings in Physics, 2015, , 440-443.	0.2	0