

Takayoshi Kobayashi

List of Publications by Year in descending order

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128
papers

2,886
citations

172386

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all docs

131
docs citations

131
times ranked

2545
citing authors

#	ARTICLE	IF	CITATIONS
1	Real-time spectroscopy of transition states in bacteriorhodopsin during retinal isomerization. Nature, 2001, 414, 531-534.	13.7	386
2	New fabrication method for highly oriented J-aggregates dispersed in polymer films. Applied Physics Letters, 1993, 63, 577-579.	1.5	143
3	Noncollinearly phase-matched femtosecond optical parametric amplification with a 2000 cm^{-1} bandwidth. Applied Physics Letters, 1998, 72, 147-149.	1.5	142
4	Femtosecond Fluorescence Study of the Substitution Effect on the Proton Transfer in Thermochromic Salicylideneaniline Crystals. Journal of Physical Chemistry A, 1997, 101, 644-649.	1.1	109
5	Observation of Herzberg-Teller-type Wave Packet Motion in Porphyrin J-Aggregates Studied by Sub-5-fs Spectroscopy. Journal of Physical Chemistry A, 2002, 106, 3445-3453.	1.1	98
6	Real-time vibrational mode-coupling associated with ultrafast geometrical relaxation in polydiacetylene induced by sub-5-fs pulses. Chemical Physics Letters, 2000, 321, 385-393.	1.2	95
7	Coherent control of nanoscale localization of ultrafast optical excitation in nanosystems. Physical Review B, 2004, 69, .	1.1	95
8	Ultrafast optical Kerr dynamics studied with incoherent light. Journal of Chemical Physics, 1991, 94, 3332-3346.	1.2	89
9	Dynamic Intensity Borrowing in Porphyrin J-Aggregates Revealed by Sub-5-fs Spectroscopy. Journal of Physical Chemistry B, 2001, 105, 413-419.	1.2	78
10	Tunneling process in AlAs/GaAs double quantum wells studied by photoluminescence. Journal of Applied Physics, 1988, 63, 5491-5494.	1.1	72
11	Superradiance quenching by confined acoustic phonons in chemically prepared CdS microcrystallites. Journal of Chemical Physics, 1991, 94, 4131-4140.	1.2	69
12	Ultrafast exciton and excited-exciton dynamics in J-aggregates of three-level porphyrin molecules. Journal of Chemical Physics, 1999, 110, 5844-5850.	1.2	64
13	Wave-packet dynamics in a cyanine dye molecule excited with femtosecond chirped pulses. Journal of Chemical Physics, 2000, 113, 7546-7553.	1.2	59
14	Femtosecond spectroscopy of a polydiacetylene with extended conjugation to acetylenic side groups. Chemical Physics Letters, 1997, 267, 472-480.	1.2	57
15	Effect of pH on the photoreaction cycles of bacteriorhodopsin. FEBS Letters, 1983, 162, 197-200.	1.3	54
16	New determination method of electro-optic constants and relevant nonlinear susceptibilities and its application to doped polymer. Journal of Applied Physics, 1988, 64, 2625-2629.	1.1	54
17	Optical frequency- and vibrational time-resolved two-dimensional spectroscopy by real-time impulsive resonant coherent Raman scattering in polydiacetylene. Physical Review A, 2004, 70, .	1.0	54
18	Ultrafast spectroscopy with sub-10 fs deep-ultraviolet pulses. Physical Chemistry Chemical Physics, 2012, 14, 6200.	1.3	51

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19	THz Generation and Detection on Dirac Fermions in Topological Insulators. <i>Advanced Optical Materials</i> , 2013, 1, 804-808.	3.6	49
20	Sub-5 fs pulse generation from a noncollinear optical parametric amplifier. <i>Measurement Science and Technology</i> , 2002, 13, 1671-1682.	1.4	48
21	Optical-heterodyne-detected induced phase modulation for the study of femtosecond molecular dynamics. <i>Journal of Chemical Physics</i> , 1991, 95, 937-945.	1.2	47
22	Femtosecond Fluorescence Study of Proton-Transfer Process in Thermochromic Crystalline Salicylideneanilines. <i>Journal of Physical Chemistry B</i> , 1997, 101, 10645-10652.	1.2	46
23	Chain-Length Dependent Stationary and Time-Resolved Spectra of β -Oligothiophenes. <i>Journal of Physical Chemistry B</i> , 1998, 102, 3706-3711.	1.2	43
24	Real-Time Vibrational Dynamics in Chlorophyll a Studied with a Few-Cycle Pulse Laser. <i>Biophysical Journal</i> , 2011, 101, 995-1003.	0.2	43
25	Subpicosecond molecular dynamics studied by degenerate four-wave mixing with incoherent light. <i>Physical Review A</i> , 1987, 36, 1298-1304.	1.0	42
26	Continuous-variable teleportation of single-photon states. <i>Physical Review A</i> , 2001, 65, .	1.0	40
27	Fluorescence from molecules and aggregates in polycrystalline thin films of β -oligothiophenes. <i>Journal of Chemical Physics</i> , 1998, 109, 8442-8450.	1.2	37
28	Ultrafast Multi-Level Logic Gates with Spin-Valley Coupled Polarization Anisotropy in Monolayer MoS ₂ . <i>Scientific Reports</i> , 2015, 5, 8289.	1.6	34
29	FEMTOSECOND STUDIES OF PRIMARY PHOTOPROCESSES IN OCTOPUS RHODOPSIN. <i>Photochemistry and Photobiology</i> , 1992, 56, 1003-1011.	1.3	31
30	Dynamical observation of Duschinsky rotation by sub-5-fs real-time spectroscopy. <i>Chemical Physics Letters</i> , 2000, 332, 324-330.	1.2	30
31	Nanosecond Time-Resolved Photoinduced Absorption of trans-Polyacetylene. <i>Journal of the Physical Society of Japan</i> , 1987, 56, 768-780.	0.7	29
32	Visible to near-infrared femtosecond dynamics of photoexcited gap states in substituted polyacetylenes. <i>Journal of Chemical Physics</i> , 1996, 105, 2859-2874.	1.2	29
33	Four-photon state using two-crystal geometry parametric down-conversion. <i>Physical Review A</i> , 2004, 70, .	1.0	29
34	EFFICIENT PHOTOREDUCTION OF METHYLVIologen BY METALLOPHthalocyanine SENSITIZERS. <i>Photochemistry and Photobiology</i> , 1986, 44, 125-129.	1.3	26
35	Sub-5-fs Real-time Spectroscopy of Transition States in Bacteriorhodopsin During Retinal Isomerization. <i>Photochemistry and Photobiology</i> , 2007, 83, 363-369.	1.3	25
36	Ultrafast dynamics of uracil and thymine studied using a sub-10 fs deep ultraviolet laser. <i>Physical Chemistry Chemical Physics</i> , 2016, 18, 17044-17053.	1.3	25

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37	Determination of complex tensor components of electro-optic constants of dye-doped polymer films with a Mach-Zehnder interferometer. <i>Applied Physics Letters</i> , 1994, 65, 1605-1607.	1.5	24
38	Phase analysis of vibrational wave packets in the ground and excited states in polydiacetylene. <i>Physical Review B</i> , 2004, 70, .	1.1	23
39	Origin of transition dipole-moment polarizability and hyperpolarizability in hydrazones. <i>Physical Review B</i> , 2003, 67, .	1.1	22
40	Complex electro-optic constants of dye-doped polymer films determined with a Mach-Zehnder interferometer. <i>Journal of Applied Physics</i> , 1995, 77, 4935-4940.	1.1	21
41	Spectral Oscillation in Optical Frequency-Resolved Quantum-Beat Spectroscopy With a Few-Cycle Pulse Laser. <i>IEEE Journal of Quantum Electronics</i> , 2008, 44, 1232-1241.	1.0	21
42	Reduction of distortion in photothermal microscopy and its application to the high-resolution three-dimensional imaging of nonfluorescent tissues. <i>Biomedical Optics Express</i> , 2015, 6, 3217.	1.5	18
43	Fast 3D visualization of endogenous brain signals with high-sensitivity laser scanning photothermal microscopy. <i>Biomedical Optics Express</i> , 2016, 7, 1702.	1.5	18
44	Electronic relaxation and coherent phonon dynamics in semiconducting single-walled carbon nanotubes with several chiralities. <i>Physical Review B</i> , 2013, 88, .	1.1	17
45	Electric field-controlled dissociation and association of porphyrin J-aggregates in aqueous solution. <i>Physical Chemistry Chemical Physics</i> , 2011, 13, 17756.	1.3	16
46	Giant Static Dipole Moment in Pseudoisocyanine J-Aggregate with a Hierarchical Structure. <i>Molecular Crystals and Liquid Crystals</i> , 1998, 314, 1-11.	0.3	15
47	Chirped modulation of molecular vibration in quinoidal thiophene after sub-5fs excitation. <i>Chemical Physics Letters</i> , 2006, 430, 45-50.	1.2	14
48	Exploring the ultrafast dynamics of a diarylethene derivative using sub-10 fs laser pulses. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 192-204.	1.3	14
49	Time-resolved resonance Raman spectrum of chrysene in the S ₁ and T ₁ states. <i>Journal of Chemical Physics</i> , 1986, 85, 1211-1219.	1.2	11
50	Femtosecond inverse Raman spectrum of molecular J-aggregates. <i>Journal of Raman Spectroscopy</i> , 1995, 26, 553-559.	1.2	11
51	Time-Resolved Fluorescence Spectroscopy of Porphyrin J-Aggregates Using Optical Kerr Gate Methods. <i>Journal of the Chinese Chemical Society</i> , 2000, 47, 859-861.	0.8	9
52	Generation of frequency tunable polarization entangled photon pairs. <i>Journal of Applied Physics</i> , 2006, 99, 063101.	1.1	9
53	Electric-Field Induced Shift in the Plasmon Resonance Due to the Interfacial Pockels Effect of Water on a Silver Surface. <i>Applied Sciences (Switzerland)</i> , 2021, 11, 2152.	1.3	9
54	Hierarchic Structure of J-Aggregates. <i>Molecular Crystals and Liquid Crystals</i> , 1996, 283, 17-24.	0.3	8

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55	Confined breather-type excitation in a quinoidal thiophene after sub-5fs pulse excitation. Journal of Chemical Physics, 2006, 125, 044103.	1.2	8
56	Ultrafast Vibronic Processes in a Ru ^{II} -Porphyrin Complex. European Journal of Inorganic Chemistry, 2008, 2008, 4856-4860.	1.0	8
57	Real-time observation of dynamic coupling between the stretching and bending modes in a polythiophene. Chemical Physics Letters, 2009, 481, 204-208.	1.2	8
58	Sub-10-fs deep-ultraviolet light source with stable power and spectrum. Applied Optics, 2012, 51, 6403.	0.9	8
59	Generation and Optimization of Femtosecond Pulses by Four-Wave Mixing Process. IEEE Journal of Selected Topics in Quantum Electronics, 2012, 18, 54-65.	1.9	8
60	Development of Ultrafast Spectroscopy and Reaction Mechanisms Studied by the Observation of Ultrashort-Life Species and Transition States. Bulletin of the Chemical Society of Japan, 2013, 86, 167-182.	2.0	8
61	Sub-10 fs spectroscopy of K-TCNQ crystal for observation of intramolecular vibration modulation in melting of the Peierls dimer. Physical Review B, 2014, 90, .	1.1	8
62	Gray-level co-occurrence matrix analysis of several cell types in mouse brain using resolution-enhanced photothermal microscopy. Journal of Biomedical Optics, 2017, 22, 036011.	1.4	8
63	Femtosecond electronic relaxation and real-time vibrational dynamics in 2 ⁺ -hydroxychalcone. Physical Chemistry Chemical Physics, 2019, 21, 5344-5358.	1.3	8
64	An exciton with a massive hole in a quantum dot. Journal of Applied Physics, 1994, 75, 382-387.	1.1	7
65	Charge-Transfer Effects in a Strongly Hydrogen-Bonded System: A Potassium Salt of Acetylenedicarboxylic Acid. The Journal of Physical Chemistry, 1996, 100, 5844-5848.	2.9	7
66	Ultrafast relaxation dynamics of neutral soliton pairs in a quasi-one-dimensional halogen-bridged mixed-valence platinum complex [Pt(en) ₂][Pt(en)2Br ₂](ClO ₄) ₄ . Journal of Chemical Physics, 2001, 114, 2369-2376.	1.2	7
67	Chirped molecular vibration in a stilbene derivative in solution. Chemical Physics, 2007, 341, 336-343.	0.9	7
68	A new reaction mechanism of Claisen rearrangement induced by few-optical-cycle pulses: Demonstration of nonthermal chemistry by femtosecond vibrational spectroscopy. Pure and Applied Chemistry, 2013, 85, 1991-2004.	0.9	7
69	Ultrafast Response of Polymers with Large Optical Nonlinearity. Molecular Crystals and Liquid Crystals, 1992, 217, 83-88.	0.3	6
70	Femtosecond Nonlinear Optical Response in J-Aggregates: Exciton Dynamics and Stimulated Raman Process. , 1996, , 161-180.		6
71	FIRST OBSERVATION OF DYNAMIC INTENSITY BORROWING INDUCED BY COHERENT MOLECULAR VIBRATIONS IN J-AGGREGATES REVEALED BY SUB-5-FS SPECTROSCOPY. International Journal of Modern Physics B, 2001, 15, 3817-3820.	1.0	6
72	Hierarchical Structure in Oriented J-aggregates. , 1996, , 41-65.		5

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73	Population Inversion between Uncoupled Atomic States through Cavity Modes. Journal of the Physical Society of Japan, 1998, 67, 1594-1596.	0.7	5
74	LIGHT ADAPTATION OF DARK-ADAPTED BACTERIORHODOPSIN STUDIED BY NANOSECOND TIME-RESOLVED ABSORPTION SPECTROSCOPY. Photochemistry and Photobiology, 1992, 56, 1013-1018.	1.3	4
75	Ultrafast electronic relaxation and vibrational dynamics in a polyacetylene derivative. Chemical Physics Letters, 2013, 567, 6-13.	1.2	4
76	Compressive Creep Behavior of SiC Fiber-Reinforced Mullite Matrix Composites. Ceramic Engineering and Science Proceedings, 0, , 129-136.	0.1	4
77	Ultrafast Responses in Various Conjugated Polymers with Large Optical Nonlinearity. , 1993, , 1-79.		4
78	Detection of Trace Iodine in Solution by Phase Conjugate Reflection. Spectroscopy Letters, 1987, 20, 633-643.	0.5	3
79	A New Architecture for Optical Data Processing Devices by the Application of Bistability in Luminescence. Optical Review, 1995, 2, 43-46.	1.2	3
80	Real-Time Charge Oscillation between Monomers in a Dimeric System Associated with Intermolecular Vibration Induced by an Ultrashort Pulse. Journal of Physical Chemistry B, 2005, 109, 74-79.	1.2	3
81	Solvent Effects in Highly Efficient Light-Induced Molecular Aggregation. Applied Sciences (Switzerland), 2019, 9, 5381.	1.3	3
82	Efficient Molecular Aggregation of Rhodamine 6G and Pseudoisocyanine by Light-Induced Force. Applied Sciences (Switzerland), 2020, 10, 3563.	1.3	3
83	ULTRAFAST RELAXATION IN CONJUGATED POLYMERS. , 1998, , 430-488.		2
84	The effect of two-exciton states on the linear absorption of the third molecular level in linear molecular aggregates. Journal of Chemical Physics, 2002, 117, 11347-11351.	1.2	2
85	Observation of breather and soliton in a substituted polythiophene with a degenerate ground state. Physica Status Solidi C: Current Topics in Solid State Physics, 2011, 8, 74-79.	0.8	2
86	More Than 50-Fold Enhanced Nonlinear Optical Response of Porphyrin Molecules in Aqueous Solution Induced by Mixing Base and Organic Solvent. Applied Sciences (Switzerland), 2021, 11, 4892.	1.3	2
87	All-Optical Bistabilities in Reflection and Luminescence of Thin ZnSe Films. Optical Review, 1995, 2, 404-406.	1.2	1
88	ULTRAFAST LATTICE RELAXATION DYNAMICS OF EXCITON IN A QUASI-1-D METAL-HALOGEN COMPLEX. International Journal of Modern Physics B, 2001, 15, 3965-3968.	1.0	1
89	Time resolution of chirped lattice vibrations in a mixed-valence metal-halogen complex system. Physical Review B, 2007, 75, .	1.1	1
90	Beat of Frequency Modes with an Artificial Negative Frequency in Spectrogram Analysis. Chemistry Letters, 2010, 39, 1283-1284.	0.7	1

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91	ULTRAFast REAL-TIME VIBRATIONAL DYNAMICS IN J-AGGREGATES. , 2012, , 1-47.		1
92	Generation of multi-color carrier-envelope phase locked pulse with continuous color tunability. Optics Communications, 2014, 315, 310-316.	1.0	1
93	Ultrafast dynamics of ligand and substrate interaction in endothelial nitric oxide synthase under Soret excitation. Biophysical Chemistry, 2016, 214-215, 11-16.	1.5	1
94	CONTINUOUS VARIABLE TELEPORTATION OF SINGLE PHOTON STATES. , 2002, , .		1
95	Interfacial Pockels Effect of Solvents with a Larger Static Dielectric Constant than Water and an Ionic Liquid on the Surface of a Transparent Oxide Electrode. Applied Sciences (Switzerland), 2022, 12, 2454.	1.3	1
96	New Method for the Measurement of Electro-optic Constant of Polycarbonate Films Doped with 4-Diethylamino-4-â€²-Nitrostilbene Molecules. Materials Research Society Symposia Proceedings, 1987, 109, 373.	0.1	0
97	Femtosecond Spectroscopy of Polydiacetylene. Molecular Crystals and Liquid Crystals Incorporating Nonlinear Optics, 1990, 183, 153-156.	0.3	0
98	Ultrafast Relaxation in Conjugated Polymers: Femtosecond Raman Gain Spectrum of Excitons with 1.5-PS Life in Polydiacetylene. Molecular Crystals and Liquid Crystals, 1994, 256, 129-134.	0.3	0
99	Comparison of Bistable Light Emission of a Thin CdS:Cu Film Measured in Reflection and Transmission Geometry. Optical Review, 1997, 4, 553-555.	1.2	0
100	Real-Time Spectroscopy of Molecular Vibration Using Sub-5-fs Pulses. ACS Symposium Series, 2002, , 171-187.	0.5	0
101	Ultrafast Optical Nonlinearity in Polydiacetylenes Studied by Sub-5-fs Laser. Molecular Crystals and Liquid Crystals, 2006, 446, 193-207.	0.4	0
102	Sub-5 fs Spectroscopy of Polydiacetylene. , 2006, , 497-524.		0
103	Quantum key distribution with a heralded single photon source and a photon number resolving detector. , 2006, , .		0
104	Sub-5-fs real-time spectroscopy of transition states in bacteriorhodopsin during retinal isomerization. , 2008, , .		0
105	Broadband two-dimensional multicolored arrays generation in a sapphire plate. , 2009, , .		0
106	Generation of µJ tunable multicolor femtosecond laser pulses using cascaded four-wave mixing. , 2009, , .		0
107	Simultaneous measurement of electronic and vibrational dynamics using a few-cycle pulse laser. , 2009, , .		0
108	Parametric interactions and nonlinear Raman processes of vibronic excitons in polydiacetylene studied with a two-â€œoptical-â€œcycle laser. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 152-155.	0.8	0

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109	Generation of CEP-stabilized sub-3-fs pulses. , 2011, , .		0
110	Femtosecond pulse cleaning and measurement using self-diffraction process. , 2011, , .		0
111	Terahertz Generation: THz Generation and Detection on Dirac Fermions in Topological Insulators (Advanced Optical Materials 11/2013). Advanced Optical Materials, 2013, 1, 886-886.	3.6	0
112	DEVELOPMENT OF ULTRASHORT PULSE LASERS AND THEIR APPLICATIONS TO ULTRAFAST SPECTROSCOPY IN THE VISIBLE AND NIR RANGES. Advances in Multi-photon Processes and Spectroscopy, 2016, , 155-210.	0.6	0
113	Advanced time-resolved absorption spectroscopy with an ultrashort visible/near IR laser and a multi-channel lock-in detector. Proceedings of the Japan Academy Series B: Physical and Biological Sciences, 2021, 97, 236-260.	1.6	0
114	EXCITED- AND GROUND-STATE WAVE PACKET DYNAMICS IN ORGANIC MATERIALS INDUCED BY FEMTOSECOND CHIRPED PULSES. , 2000, , .		0
115	DYNAMICAL INTENSITY BORROWING IN PORPHYRIN J-AGGREGATES REVEALED BY SUB-5-FS SPECTROSCOPY. , 2000, , .		0
116	SUB-5FS REAL-TIME SPECTROSCOPY OF GEOMETRICAL RELAXATION PROCESSES IN POLYDIACETYLENES. , 2000, , .		0
117	SUB-5-fs REAL-TIME SPECTROSCOPY of EXCITONIC SYSTEMS. , 2001, , .		0
118	FIRST OBSERVATION OF DYNAMIC INTENSITY BORROWING INDUCED BY COHERENT MOLECULAR VIBRATIONS IN J-AGGREGATES REVEALED BY SUB-5-FS SPECTROSCOPY. , 2001, , .		0
119	ULTRAFAST LATTICE RELAXATION DYNAMICS OF EXCITON IN A QUAISI-1-D METAL-HALOGEN COMPLEX. , 2001, , .		0
120	Application of Subpicosecond Laser to Chemical Physics. The Review of Laser Engineering, 1981, 9, 619-628.	0.0	0
121	Generation of Femtosecond Light Pulses. The Review of Laser Engineering, 1984, 12, 298-305.	0.0	0
122	Measurements of femtosecond relaxations in condensed phase using incoherent light.. The Review of Laser Engineering, 1987, 15, 923-929.	0.0	0
123	Report on CLEO '88. IV. Ultrafast optics and electronics, atmospheric, space and ocean optics.. The Review of Laser Engineering, 1988, 16, 348-351.	0.0	0
124	Report on CLEO '89/QELS '89 II. Nonlinear optics, ultrafast phenomena.. The Review of Laser Engineering, 1989, 17, 489-499.	0.0	0
125	CLEO '90/IQEC '90 Report IV. Nonlinear optics ultrafast phenomena.. The Review of Laser Engineering, 1990, 18, 529-539.	0.0	0
126	Efficient Femtosecond Optical Parametric Oscillator Tunable in a Blue-Orange Region.. The Review of Laser Engineering, 1995, 23, 922-927.	0.0	0

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127	Report on CLEO/QELS'99. The Review of Laser Engineering, 1999, 27, 553-571.	0.0	0
128	Application of Ultrashort DUV Pulse Laser to Study the Primary Dynamic Process of Molecules in Vitamin D Biosynthesis. The Review of Laser Engineering, 2015, 43, 703.	0.0	0