

# Franck Billard

## List of Publications by Year in descending order

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Version: 2024-02-01

79  
papers

1,163  
citations

393982

19  
h-index

433756

31  
g-index

79  
all docs

79  
docs citations

79  
times ranked

965  
citing authors

#	ARTICLE	IF	CITATIONS
1	Fiber laser mode locked through an evolutionary algorithm. <i>Optica</i> , 2015, 2, 275.	4.8	96
2	Polarization Shaping for Unidirectional Rotational Motion of Molecules. <i>Physical Review Letters</i> , 2015, 114, 103001.	2.9	59
3	Orientation and Alignment Echoes. <i>Physical Review Letters</i> , 2015, 114, 153601.	2.9	55
4	Toward an autsetting mode-locked fiber laser cavity. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2016, 33, 825.	0.9	55
5	Anisotropic nonlinear optical absorption of gold nanorods in a silica matrix. <i>Optics Communications</i> , 2008, 281, 331-340.	1.0	50
6	Field-free molecular alignment for probing collisional relaxation dynamics. <i>Physical Review A</i> , 2013, 87, .	1.0	44
7	Nanosecond Z-scan measurements of the nonlinear refractive index of fused silica. <i>Optics Express</i> , 2004, 12, 1377.	1.7	38
8	Observation of the field-free orientation of a symmetric-top molecule by terahertz laser pulses at high temperature. <i>Physical Review A</i> , 2016, 94, .	1.0	38
9	Mid-infrared supercontinuum generation from 2 to 14 $\mu\text{m}$ in arsenic- and antimony-free chalcogenide glass fibers. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2019, 36, A183.	0.9	37
10	Observation of laser-induced field-free permanent planar alignment of molecules. <i>Physical Review A</i> , 2011, 84, .	1.0	32
11	Polarized all-normal dispersion supercontinuum reaching 25 $\mu\text{m}$ generated in a birefringent microstructured silica fiber. <i>Optics Express</i> , 2017, 25, 27452.	1.7	31
12	Dynamics, Efficiency, and Energy Distribution of Nonlinear Plasmon-Assisted Generation of Hot Carriers. <i>ACS Photonics</i> , 2016, 3, 791-795.	3.2	30
13	Coherent anti-Stokes Raman scattering (CARS) microscopy imaging at interfaces: evidence of interference effects. <i>Optics Express</i> , 2007, 15, 10408.	1.7	28
14	Rotational Echoes as a Tool for Investigating Ultrafast Collisional Dynamics of Molecules. <i>Physical Review Letters</i> , 2019, 122, 193401.	2.9	28
15	1.7- $\mu\text{m}$ mid-infrared supercontinuum generation in a dispersion-engineered step-index chalcogenide fiber. <i>Results in Physics</i> , 2021, 26, 104397.	2.0	28
16	Experimental observation of fractional echoes. <i>Physical Review A</i> , 2016, 94, .	1.0	25
17	Filament-induced visible-to-mid-IR supercontinuum in a ZnSe crystal: Towards multi-octave supercontinuum absorption spectroscopy. <i>Optical Materials</i> , 2016, 60, 355-358.	1.7	25
18	Observing collisions beyond the secular approximation limit. <i>Nature Communications</i> , 2019, 10, 5780.	5.8	23

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19	Mid-infrared filamentation-induced supercontinuum in As <sup>2</sup> S and an As-free Ge <sup>2</sup> S counterpart chalcogenide glasses. Applied Physics B: Lasers and Optics, 2015, 121, 433-438.	1.1	20
20	Dissipation of alignment in CO <sub>2</sub> gas: A comparison between <i>ab initio</i> predictions and experiments. Journal of Chemical Physics, 2013, 139, 024306.	1.2	19
21	Rotational Doppler effect in harmonic generation from spinning molecules. Physical Review A, 2016, 94, .	1.0	19
22	Optical Imaging of Coherent Molecular Rotors. Laser and Photonics Reviews, 2020, 14, 1900344.	4.4	19
23	Harmonic Generation and Nonlinear Propagation: When Secondary Radiations Have Primary Consequences. Physical Review Letters, 2014, 112, .	2.9	18
24	Molecular alignment allows low-order harmonic generation by circular light in a gas. Physical Review A, 2013, 88, .	1.0	17
25	Selective excitation of bright and dark plasmonic resonances of single gold nanorods. Optics Express, 2014, 22, 15088.	1.7	16
26	Focused field symmetries for background-free coherent anti-Stokes Raman spectroscopy. Physical Review A, 2008, 77, .	1.0	15
27	Using molecular alignment to track ultrafast collisional relaxation. Physical Review A, 2014, 89, .	1.0	14
28	Third-order-harmonic generation in coherently spinning molecules. Physical Review A, 2017, 96, .	1.0	14
29	Autosetting Mode-Locked Laser Using an Evolutionary Algorithm and Time-Stretch Spectral Characterization. IEEE Journal of Selected Topics in Quantum Electronics, 2020, 26, 1-8.	1.9	14
30	On-demand generation of soliton molecules through evolutionary algorithm optimization. Optics Letters, 2022, 47, 134.	1.7	14
31	Filamentation-induced spectral broadening and pulse shortening of infrared pulses in Tellurite glass. Optics Communications, 2016, 380, 245-249.	1.0	13
32	Raman depolarization ratio of liquids probed by linear polarization coherent anti-Stokes Raman spectroscopy. Journal of Raman Spectroscopy, 2009, 40, 775-780.	1.2	12
33	Time-domain measurement of pure rotational Raman collisional linewidths of ethane C <sub>2</sub> H <sub>6</sub> . Journal of Raman Spectroscopy, 2018, 49, 1350-1355.	1.2	12
34	Probing ultrafast thermalization with field-free molecular alignment. Physical Review A, 2012, 86, .	1.0	11
35	Shaping of ultraviolet femtosecond laser pulses by Fourier domain harmonic generation. Optics Express, 2016, 24, 27702.	1.7	11
36	Resonantly enhanced filamentation in gases. Optica, 2017, 4, 764.	4.8	11

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37	Dissipation dynamics of field-free molecular alignment for symmetric-top molecules: Ethane (C <sub>2</sub> H <sub>6</sub> ). Journal of Chemical Physics, 2018, 148, 124303.	1.2	11
38	A generalized vibronic-coupling Hamiltonian for molecules without symmetry: Application to the photoisomerization of benzopyran. Journal of Chemical Physics, 2019, 150, 124109.	1.2	11
39	Phase control of two-color filamentation. Journal of Physics B: Atomic, Molecular and Optical Physics, 2015, 48, 184005.	0.6	10
40	Background-free coherent anti-Stokes Raman spectroscopy near transverse interfaces: a vectorial study. Journal of the Optical Society of America B: Optical Physics, 2008, 25, 1655.	0.9	9
41	Dissipation of post-pulse laser-induced alignment of CO <sub>2</sub> through collisions with Ar. Journal of Raman Spectroscopy, 2015, 46, 691-694.	1.2	9
42	Measurement of dichroism in aligned molecules. Physical Review A, 2016, 94, .	1.0	9
43	Experimental and theoretical study of free induction decay of water molecules induced by terahertz laser pulses. Physical Review A, 2017, 95, .	1.0	9
44	Mid-infrared two-octave spanning supercontinuum generation in a Ge-Se-Te glass suspended core fiber. Laser Physics Letters, 2019, 16, 075402.	0.6	9
45	Subcycle engineering of laser filamentation in gas by harmonic seeding. Physical Review A, 2015, 92, .	1.0	8
46	Molecular alignment echoes probing collision-induced rotational-speed changes. Physical Review Research, 2020, 2, .	1.3	8
47	Local field calculations of the anisotropic nonlinear absorption coefficient of aligned gold nanorods embedded in silica. Journal of the Optical Society of America B: Optical Physics, 2008, 25, 961.	0.9	7
48	Doppler effect as a tool for ultrashort electric field reconstruction. Optics Letters, 2020, 45, 6795.	1.7	6
49	Polarization-based tachometer for measuring spinning rotors. Optics Express, 2018, 26, 31839.	1.7	5
50	Collisional dissipation of the laser-induced alignment of ethane gas: A requantized classical model. Journal of Chemical Physics, 2018, 149, 154301.	1.2	5
51	Expanding up to far-infrared filamentation-induced supercontinuum spanning in chalcogenide glasses. Applied Physics B: Lasers and Optics, 2018, 124, 1.	1.1	5
52	BOAR: Biprism based optical autocorrelation with retrieval. Review of Scientific Instruments, 2019, 90, 063110.	0.6	5
53	Echo-assisted impulsive alignment of room-temperature acetone molecules. Physical Review Research, 2021, 3, .	1.3	5
54	Interpretation of negative birefringence observed in strong-field optical pump-probe experiments: High-order Kerr and plasma grating effects. Physical Review A, 2013, 88, .	1.0	4

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55	Ultrafast collisional dissipation of symmetric-top molecules probed by rotational alignment echoes. <i>Physical Review A</i> , 2020, 101, .	1.0	4
56	Z-scan theoretical and experimental studies for accurate measurements of the nonlinear refractive index and absorption of optical glasses near damage threshold. , 2004, , .		3
57	Transverse chemical interface detection with coherent anti-Stokes Raman scattering microscopy. <i>Journal of Biomedical Optics</i> , 2011, 16, 086006.	1.4	3
58	Collisional dissipation of the laser-induced alignment of ethane gas: Energy corrected sudden quantum model. <i>Journal of Chemical Physics</i> , 2018, 149, 214305.	1.2	3
59	Study and experimental setting of the Z-scan method for accurate nonlinear refractive index and absorption metrology. , 2004, , .		2
60	Z-scan studies of the nonlinear refractive index of fused silica in the nanosecond regime. , 2004, , .		2
61	Coherent anti-Stokes Raman scattering in a microcavity. <i>Optics Letters</i> , 2009, 34, 1789.	1.7	2
62	Field-free molecular alignment detection by 4f coherent imaging. <i>Applied Physics B: Lasers and Optics</i> , 2012, 108, 897-902.	1.1	2
63	Revisiting interferences for measuring and optimizing optical nonlinearities. <i>Physical Review A</i> , 2013, 88, .	1.0	2
64	Torsional control of the methyl group in methanol. <i>Physical Review A</i> , 2019, 100, .	1.0	2
65	Subpicosecond Z-scan measurements of the nonlinear refractive index of dense materials. , 2005, , .		2
66	Visualizing coherent molecular rotation in a gaseous medium. <i>Physical Review A</i> , 2021, 104, .	1.0	2
67	Spectral phase reconstruction of femtosecond laser pulse from interferometric autocorrelation and evolutionary algorithm. <i>Optics Communications</i> , 2022, 509, 127887.	1.0	2
68	Coherent anti-Stokes Raman scattering in a Fabry-Perot cavity: A theoretical study. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2009, 26, 1295.	0.9	1
69	Direct temporal reconstruction of picosecond pulse by cross-correlation in semiconductor device. <i>Electronics Letters</i> , 2012, 48, 778.	0.5	1
70	Terahertz pulse shaping through propagation in a gas of symmetric top molecules. <i>Physical Review A</i> , 2017, 96, .	1.0	1
71	Characterizing ultrashort laser pulses by the rotational Doppler effect. <i>Physical Review A</i> , 2021, 104, .	1.0	1
72	Mid-infrared supercontinuum generation from 2 to 14 $\mu\text{m}$ in various chalcogenide glasses optical fibers. , 2019, , .		1

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73	Linear and Nonlinear Optics in Coherently Spinning Molecules. Springer Series in Chemical Physics, 2018, , 37-64.	0.2	1
74	Publisher's Note: Measurement of dichroism in aligned molecules [Phys. Rev. A <b>94</b> , 043422 (2016)]. Physical Review A, 2016, 94, .	1.0	0
75	Time-Resolved Molecular Imaging: Optical Imaging of Coherent Molecular Rotors (Laser Photonics Rev.) Tj ETQq1_1 0.784314 rgBT /0	4.4	0
76	Autosetting Mode-locked Laser with Genetic Algorithm Optimization and Advanced Intracavity Controls. , 2021, , .		0
77	Optical Kerr effect in the strong field regime. , 2013, , .		0
78	TIGER: Time-Gated Electric field Reconstruction. Advanced Photonics Research, 0, , 2200107.	1.7	0
79	Generation and Control of Coherent Terahertz Phonons in Silicon Metasurfaces. Advanced Optical Materials, 0, , 2200357.	3.6	0