

# Gabor Demeter

## List of Publications by Year in descending order

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papers

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citations

687220

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#	ARTICLE	IF	CITATIONS
1	Transition to Chaos via Gluing Bifurcations in Optically Excited Nematic Liquid Crystals. <i>Physical Review Letters</i> , 1999, 83, 4744-4747.	2.9	46
2	Complex nonlinear behavior in optically excited nematic liquid crystals. <i>Physical Review E</i> , 2000, 61, 6678-6688.	0.8	24
3	Numerical investigation of optically induced director oscillations in nematic liquid crystals. <i>Physical Review E</i> , 2001, 64, 020701.	0.8	23
4	Population transfer in three-level $\hat{\nu}$ atoms with Doppler-broadened transition lines by a single frequency-chirped short laser pulse. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2000, 17, 107.	0.9	22
5	Coherent population transfer in Rb atoms by frequency-chirped laser pulses. <i>Physical Review A</i> , 2003, 68, .	1.0	21
6	Pulse propagation in a dressed, degenerate system. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2013, 30, 829.	0.9	20
7	Advanced neutral alkali beam diagnostics for applications in fusion research (invited). <i>Review of Scientific Instruments</i> , 2018, 89, 10D107.	0.6	20
8	Light-induced dynamics in nematic liquid crystalsâ€”a fascinating world of complex nonlinear phenomena. <i>Physics Reports</i> , 2007, 448, 133-162.	10.3	16
9	Creation of a coherent superposition of quantum states by a single frequency-chirped short laser pulse. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2008, 25, 166.	0.9	16
10	Transient laser cooling of two-level quantum systems with narrow natural linewidths. <i>Physical Review A</i> , 1996, 53, 2885-2888.	1.0	15
11	Solving the Maxwellâ€™ Bloch equations for resonant nonlinear optics using GPUs. <i>Computer Physics Communications</i> , 2013, 184, 1203-1210.	3.0	15
12	Composite pulses for high-fidelity population inversion in optically dense, inhomogeneously broadened atomic ensembles. <i>Physical Review A</i> , 2016, 93, .	1.0	15
13	Transition between Instability and Seeded Self-Modulation of a Relativistic Particle Bunch in Plasma. <i>Physical Review Letters</i> , 2021, 126, 164802.	2.9	13
14	Pattern-forming instability induced by light in pure and dye-doped nematic liquid crystals. <i>Physical Review E</i> , 2002, 66, 031707.	0.8	12
15	Deflection and splitting of atomic beams with counterpropagating, short, chirped laser pulses. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1998, 15, 16.	0.9	10
16	Mechanical effect of retroreflected frequency-chirped laser pulses on two-level atoms. <i>Physical Review A</i> , 2006, 74, .	1.0	10
17	Tomography using neural networks. <i>Review of Scientific Instruments</i> , 1997, 68, 1438-1443.	0.6	9
18	Numerical study of optically induced director oscillations in nematic liquid crystals: Transition to chaos via homoclinic gluings and the role of backflow. <i>Physical Review E</i> , 2005, 72, 051712.	0.8	9

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19	Influence of the backflow effect on the orientational dynamics induced by light in nematics. <i>Physical Review E</i> , 2005, 71, 051711.	0.8	9
20	Proton beam defocusing in AWAKE: comparison of simulations and measurements. <i>Plasma Physics and Controlled Fusion</i> , 2020, 62, 125023.	0.9	8
21	Experimental study of wakefields driven by a self-modulating proton bunch in plasma. <i>Physical Review Accelerators and Beams</i> , 2020, 23, .	0.6	8
22	Controlled Growth of the Self-Modulation of a Relativistic Proton Bunch in Plasma. <i>Physical Review Letters</i> , 2022, 129, .	2.9	8
23	Adiabatic passage in photon-echo quantum memories. <i>Physical Review A</i> , 2013, 88, .	1.0	7
24	Propagation of ultrashort resonant ionizing laser pulses in rubidium vapor. <i>Physical Review A</i> , 2019, 99, .	1.0	7
25	Manipulation of two-level quantum systems with narrow transition lines by short linearly polarized frequency-chirped laser pulses. <i>Journal of the Optical Society of America B: Optical Physics</i> , 1996, 13, 1697.	0.9	6
26	Orientalional Dynamics Induced by Circularly Polarized Light in Nematic Liquid Crystals. <i>Molecular Crystals and Liquid Crystals</i> , 2004, 421, 117-131.	0.4	6
27	Theory of the adiabatic passage in two-level quantum systems with superpositional initial states. <i>Journal of Modern Optics</i> , 1997, 44, 1511-1523.	0.6	5
28	Propagation of frequency-chirped laser pulses in a medium of atoms with a $\lambda$ -level scheme. <i>Physical Review A</i> , 2007, 76, .	1.0	5
29	Proton Bunch Self-Modulation in Plasma with Density Gradient. <i>Physical Review Letters</i> , 2020, 125, 264801.	2.9	5
30	Multiphoton adiabatic passage for atom optics applications. <i>Journal of the Optical Society of America B: Optical Physics</i> , 2009, 26, 867.	0.9	4
31	Long-range propagation of ultrafast ionizing laser pulses in a resonant nonlinear medium. <i>Physical Review A</i> , 2021, 104, .	1.0	4
32	Quantum control of multilevel atoms with rotational degeneracy using short laser pulses. <i>Physical Review A</i> , 2010, 82, .	1.0	3
33	Nonlinear pulse propagation phenomena in ion-doped dielectric crystals. <i>Physical Review A</i> , 2012, 85, .	1.0	3
34	Coherence rephasing combined with spin-wave storage using chirped control pulses. <i>Physical Review A</i> , 2014, 89, .	1.0	3
35	Simulation and experimental study of proton bunch self-modulation in plasma with linear density gradients. <i>Physical Review Accelerators and Beams</i> , 2021, 24, .	0.6	3
36	Coherence creation in an optically thick medium by matched propagation of a chirped-laser-pulse pair. <i>Physical Review A</i> , 2014, 89, .	1.0	2

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37	LIGHT-INDUCED PATTERN FORMATION IN NEMATIC LIQUID CRYSTALS. Molecular Crystals and Liquid Crystals, 2001, 366, 807-814.	0.3	1
38	Theoretical Investigation of Optically Induced Director Oscillations in Nematics. Molecular Crystals and Liquid Crystals, 2002, 375, 745-754.	0.4	1
39	Velocity-tuned resonances between different ground-state sublevels in two( $\hat{f}$ +and $\hat{f}$ polarized) standing waves. Physical Review A, 1997, 56, 1472-1480.	1.0	0
40	Coherent Interaction of Frequency-Modulated Laser Pulses with Rb Atoms. European Physical Journal A, 2004, 20, 167-176.	0.2	0
41	DYNAMICAL PHENOMENA INNEMATIC LIQUID CRYSTALS INDUCED BY LIGHT. , 2006, , 83-122.		0
42	Propagation of frequency-chirped laser pulses in a medium of A-atoms. , 2007, , .		0
43	Laser particle acceleration technologies. , 2021, , .		0
44	Experimental Nonlinear Observation of TW Laser Propagation Through a 10m Rubidium Vapor Source for Plasma Diagnostics at AWAKE. , 2019, , .		0
45	Analysis of proton bunch parameters in the AWAKE experiment. Journal of Instrumentation, 2021, 16, P11031.	0.5	0
46	Coherent manipulation of trapped Rb atoms by overlapping frequency-chirped laser pulses: theory and experiment. European Physical Journal D, 2022, 76, .	0.6	0