

Fedor Potemkin

List of Publications by Year in descending order

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docs citations

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times ranked

410
citing authors

#	ARTICLE	IF	CITATIONS
1	Femtosecond graphene mode-locked Fe:ZnSe laser at 4.4 μm . Optics Letters, 2020, 45, 738.	1.7	61
2	35-mJ 150-fs Fe:ZnSe hybrid mid-IR femtosecond laser at 4.4 μm for driving extreme nonlinear optics. Optics Letters, 2019, 44, 2550.	1.7	58
3	Compact, highly efficient, 21-W continuous-wave mid-infrared Fe:ZnSe coherent source, pumped by an Er:ZBLAN fiber laser. Optics Letters, 2018, 43, 5941.	1.7	35
4	Highly extended high density filaments in tight focusing geometry in water: from femtoseconds to microseconds. New Journal of Physics, 2015, 17, 053010.	1.2	33
5	Fe ²⁺ -doped CdSe single crystal: growth, spectroscopic and laser properties, potential use as a 6 μm broadband amplifier. Laser Physics Letters, 2017, 14, 025001.	0.6	30
6	Mid-IR (4.5 μm) femtosecond multipass amplification of optical parametric seed pulse up to gigawatt level in Fe ²⁺ :ZnSe with optical pumping by a solid-state 3 μm laser. Laser Physics Letters, 2016, 13, 125403.	0.6	29
7	Highly efficient optical parametric amplifier tunable from near- to mid-IR for driving extreme nonlinear optics in solids. Optics Letters, 2017, 42, 5218.	1.7	28
8	Laser control of filament-induced shock wave in water. Laser Physics Letters, 2014, 11, 106001.	0.6	23
9	Powerful 3 μm lasers acousto-optically Q-switched with KYW and KGW crystals. Optics Letters, 2019, 44, 4837.	1.7	23
10	Dynamics of multiple bubbles, excited by a femtosecond filament in water. Laser Physics Letters, 2015, 12, 015405.	0.6	21
11	Controlled energy deposition and void-like modification inside transparent solids by two-color tightly focused femtosecond laser pulses. Applied Physics Letters, 2017, 110, .	1.5	21
12	Anomalous behavior of nonlinear refractive indexes of CO ₂ and Xe in supercritical states. Optics Express, 2018, 26, 13229.	1.7	19
13	Toward a sub-terawatt mid-IR (4.5 μm) femtosecond hybrid laser system based on parametric seed pulse generation and amplification in Fe ²⁺ :ZnSe. Laser Physics Letters, 2016, 13, 015401.	0.6	18
14	Cavitation and shock waves emission on the rigid boundary of water under mid-IR nanosecond laser pulse excitation. Laser Physics Letters, 2018, 15, 065401.	0.6	18
15	Effect of pulse duration on the energy delivery under nonlinear propagation of tightly focused Cr:forsterite laser radiation in bulk silicon. Laser Physics Letters, 2020, 17, 015402.	0.6	18
16	40 kHz , 20 ns acousto-optically Q-switched 4 μm Fe:ZnSe laser pumped by a fluoride fiber laser. Optics Letters, 2020, 45, 2788.	1.7	18
17	Powerful 3 μm YSGG:Cr : Er and YSGG: Cr :Yb : Ho Q-Switched Lasers Operating in the Repetition-Rate Mode. Journal of Russian Laser Research, 2015, 36, 570-576.	0.3	17
18	High-efficiency, continuous-wave Fe:ZnSe mid-IR laser end pumped by an Er:YAP laser. Optics Express, 2021, 29, 44118.	1.7	17

#	ARTICLE	IF	CITATIONS
19	Evolution of a femtosecond laser-induced plasma and energy transfer processes in a SiO ₂ microvolume detected by the third harmonic generation technique. JETP Letters, 2009, 90, 263-267.	0.4	16
20	Femtosecond laser pulse modification of amorphous silicon films: control of surface anisotropy. Laser Physics Letters, 2018, 15, 056001.	0.6	15
21	Ultrafast third harmonic generation imaging of microplasma at the threshold of laser-induced plasma formation in solids. Applied Physics Letters, 2019, 114, .	1.5	15
22	Optical Diagnostics of Supercritical CO ₂ and CO ₂ -Ethanol Mixture in the Widom Delta. Molecules, 2020, 25, 5424.	1.7	13
23	Ionization-free resonantly enhanced low-order harmonic generation in a dense gas mixture by a mid-IR laser field. Physical Review A, 2020, 101, .	1.0	13
24	High-Power Solid-State Near- and Mid-IR Ultrafast Laser Sources for Strong-Field Science. Photonics, 2022, 9, 90.	0.9	13
25	Influence of wave-front curvature on supercontinuum energy during filamentation of femtosecond laser pulses in water. Physical Review A, 2018, 97, .	1.0	12
26	Overcritical plasma ignition and diagnostics from oncoming interaction of two color low energy tightly focused femtosecond laser pulses inside fused silica. Laser Physics Letters, 2016, 13, 045402.	0.6	11
27	Real-Time Monitoring of the Energy Deposition under the Tight Focusing of Femtosecond Laser Radiation into a Bulk Transparent Dielectric Based on Third Harmonic Signal. JETP Letters, 2018, 107, 402-405.	0.4	11
28	Role of wavelength in photocarrier absorption and plasma formation threshold under excitation of dielectrics by high-intensity laser field tunable from visible to mid-IR. Scientific Reports, 2020, 10, 14007.	1.6	11
29	THG in dielectrics using low-energy tightly-focused ir femtosecond laser: third-order nonlinearity measurements and the evolution of laser-induced plasma. Journal of Russian Laser Research, 2009, 30, 599-608.	0.3	10
30	Enhancing nonlinear energy deposition into transparent solids with an elliptically polarized and mid-IR heating laser pulse under two-color femtosecond impact. Laser Physics Letters, 2017, 14, 065403.	0.6	10
31	Two-dimensional photoacoustic imaging of femtosecond filament in water. Laser Physics Letters, 2018, 15, 075403.	0.6	10
32	Study of the Parameters of Laser-Induced Shock Waves for Laser Shock Peening of Silicon. JETP Letters, 2020, 112, 739-744.	0.4	10
33	Generation of an adjustable multi-octave supercontinuum under near-IR filamentation in gaseous, supercritical, and liquid carbon dioxide. Optics Letters, 2016, 41, 5760.	1.7	10
34	Single-shot femtosecond bulk micromachining of silicon with mid-IR tightly focused beams. Scientific Reports, 2022, 12, 7517.	1.6	10
35	Generation of X-ray radiation from a plasma in a microchannel of a copper target located in the air under the action of soft-focused femtosecond laser pulses with an intensity of 100 TW cm ⁻² . Quantum Electronics, 2018, 48, 648-652.	0.3	9
36	Diode-side-pumped watt-level high-energy Q-switched mid-IR Er:YLF laser. Optics Letters, 2021, 46, 5465.	1.7	9

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37	Generation of coherent terahertz phonons by sharp focusing of a femtosecond laser beam in the bulk of crystalline insulators in a regime of plasma formation. JETP Letters, 2010, 92, 502-506.	0.4	8
38	Molecular Refraction and Nonlinear Refractive Index of Supercritical Carbon Dioxide under Clustering Conditions. Russian Journal of Physical Chemistry B, 2019, 13, 1214-1219.	0.2	8
39	Megawatt-Level Repetitively Pulsed Erbium 3- μm Laser with Strong Thermal Lens Compensation. JETP Letters, 2020, 112, 478-484.	0.4	8
40	Amplification properties of polycrystalline Fe:ZnSe crystals for high power femtosecond mid-IR laser systems. Optical Materials, 2021, 111, 110640.	1.7	8
41	Generation of the third harmonic of near IR femtosecond laser radiation tightly focused into the bulk of a transparent dielectric in the regime of plasma formation. Moscow University Physics Bulletin (English Translation of Vestnik Moskovskogo Universiteta, Fizika), 2011, 66, 19-24.	0.1	7
42	Gigawatt mid-IR (4-5 μm) femtosecond hybrid Fe ²⁺ :ZnSe laser system. , 2017, , .		6
43	Efficient strong-field low-order harmonic generation in xenon microplasma by a tightly focused Cr:Forsterite laser. Laser Physics Letters, 2019, 16, 045401.	0.6	6
44	A comprehensive approach to the characterization of the deposited energy density during laser-matter interactions in liquids and solids. Measurement Science and Technology, 2020, 31, 085204.	1.4	6
45	Hybrid x-ray laser-plasma/laser-synchrotron facility for pump-probe studies of the extreme state of matter at NRC "Kurchatov Institute". Review of Scientific Instruments, 2021, 92, 053101.	0.6	6
46	Control of spectral shift, broadening and pulse compression during mid-IR self-guiding in high-pressure gases and their mixtures. Optics Letters, 2022, 47, 985-988.	1.7	6
47	Optical Harmonics Generation under the Interaction of Intense (up to 1014 W/cm ²) Mid-Infrared Femtosecond Laser Radiation of a Fe:ZnSe Laser System with a Dense Laminar Gas Jet. JETP Letters, 2022, 115, 390-395.	0.4	6
48	Efficient generation of coherent THz phonons with a strong change in frequency excited by femtosecond laser plasma formed in a bulk of quartz. European Physical Journal D, 2012, 66, 1.	0.6	5
49	Broadband femtosecond parametric amplification in KTA close to mid-IR transparency cutoff. Journal of Optics (United Kingdom), 2016, 18, 095502.	1.0	5
50	Controlled nonlinearity and the lasing effect under femtosecond filamentation in dense and supercritical Xe. Laser Physics Letters, 2019, 16, 035401.	0.6	5
51	The role of external focusing in spectral enrichment under mid-IR laser filamentation in dielectrics. Journal of Optics (United Kingdom), 2021, 23, 065502.	1.0	5
52	Resonant laser-plasma excitation of coherent THz phonons under extreme conditions of femtosecond plasma formation in a bulk of fluorine-containing crystals. Laser Physics Letters, 2013, 10, 076003.	0.6	4
53	High-power mid-IR (4-5 μm) femtosecond laser system with a broadband amplifier based on Fe ²⁺ :ZnSe. Bulletin of the Russian Academy of Sciences: Physics, 2016, 80, 444-449.	0.1	4
54	Asymmetric temporal splitting of laser pulse and broad supercontinuum generation under femtosecond filamentation in YAG crystal. Laser Physics Letters, 2018, 15, 085402.	0.6	4

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55	Photoacoustic and optical imaging of the femtosecond filament in water. , 2019, , .		4
56	Generation of high-power femtosecond supercontinua in the near-IR spectral range using broadband parametric frequency conversion in LBO and DCDA crystals pumped at $\lambda = 620$ nm. Quantum Electronics, 2014, 44, 824-828.	0.3	3
57	Semi-analytical modelling of the forward and inverse problems in photoacoustic tomography of a femtosecond laser filament in water accounting for refraction and acoustic attenuation. Journal of Physics: Conference Series, 2018, 1141, 012060.	0.3	3
58	Structural Anisotropy of Amorphous Silicon Films Modified by Femtosecond Laser Pulses. Optics and Spectroscopy (English Translation of Optika i Spektroskopiya), 2018, 124, 801-807.	0.2	3
59	Generation of Broadband Near-Infrared ($2.5 \mu\text{m}$) Radiation from an Optical Parametric Amplifier Driven by a Cr:Forsterite Laser Near Dispersion Anomalies of Tuning Curves. JETP Letters, 2018, 107, 285-288.	0.4	3
60	Dynamics of Ultrafast Phase Transitions in (001) Si on the Shock-Wave Front. International Journal of Molecular Sciences, 2022, 23, 2115.	1.8	3
61	Resonance laser-plasma excitation of coherent terahertz phonons in the bulk of fluorine-bearing crystals under high-intensity femtosecond laser irradiation. Quantum Electronics, 2013, 43, 735-739.	0.3	2
62	Supercontinuum generation under filamentation driven by intense femtosecond pulses in supercritical xenon and carbon dioxide. Russian Journal of Physical Chemistry B, 2016, 10, 1211-1215.	0.2	2
63	Three-dimensional hybrid optoacoustic imaging of the laser-induced plasma and deposited energy density under optical breakdown in water. Applied Physics Letters, 2021, 118, .	1.5	2
64	Formation of Metastable Phase Si(III) in Silicon Exposed to Femtosecond Laser Radiation. Crystallography Reports, 2021, 66, 920-922.	0.1	2
65	Generation of Intense Near and Mid-Infrared Femtosecond Radiation ($2.4 \mu\text{m}$) with the Use of the Broadband Parametric Down-Conversion in a Type-II BBO Crystal Pumped by a Ti:Sapphire Laser and Its Application for the Generation of Terahertz Radiation in Organic Crystals. JETP Letters, 2022, 115, 63-70.	0.4	2
66	Efficient femtosecond mid-IR ($5 \mu\text{m}$) AGS OPA pumped by Cr:Forsterite laser. , 2017, , .		1
67	Wavelength and Energy Scaling of Deposited Energy Density during Microstructuring of Transparent Materials. , 2019, , .		1
68	Role of deposited energy density and impact ionization in the process of femtosecond laser-matter interaction with solids: scaling from visible to mid-IR wavelength. , 2019, , .		1
69	An Apparatus for Forming Three-Dimensional Structures by the Method of Two-Photon Femtosecond Polymerization with Simultaneous Spatiotemporal Focusing. Instruments and Experimental Techniques, 2021, 64, 891-897.	0.1	1
70	Ultrafast mid-IR Fe:ZnSe laser. , 2020, , .		1
71	Dynamics of ultrafast phase transitions in MgF2 triggered by laser-induced THz coherent phonons. Scientific Reports, 2022, 12, 6621.	1.6	1
72	Non-linear polarization rotation of intense femtosecond radiation in BaF 2 crystal: influence of fifth order non-linearity. Proceedings of SPIE, 2007, , .	0.8	0

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73	Cavitation and shock waves in water, stimulated by laser filament. , 2014, , .		0
74	Superfilamentation in water with tight focusing laser beams. , 2015, , .		0
75	Femtosecond supercontinuum generation and superfilamentation in liquids and supercritical fluids. , 2016, , .		0
76	Mid-IR (4â€“5 Î¼m) hybrid sub-GW Fe ²⁺ :ZnSe femtosecond laser system. , 2017, , .		0
77	Solid-state powerful femtosecond mid-IR laser sources based on Fe ²⁺ doped chalcogenides: advances and prospects. , 2018, , .		0
78	Degenerate optical parametric amplifier driven by Cr:Forsterite laser. , 2018, , .		0
79	Extreme Infrared Nonlinear Optics of Wide-Bandgap Solids Driven by Gigawatt Fe:ZnSe Laser System. , 2019, , .		0
80	Pressure Optimization of Strong Field Low Order Harmonics Generated in Xenon Microplasma in Tight Focusing Regime. , 2019, , .		0
81	The effect of chirp and wavelength for ultrafast bulk modification of solids with tightly focused laser pulses. , 2021, , .		0
82	Third harmonic ultrafast feedback during femtosecond micromachining of solids. , 2019, , .		0
83	Compact CW mid-IR Fe:ZnSe coherent source pumped by Er:ZBLAN fiber laser. , 2019, , .		0
84	Flexible control of nonlinear processes under femtosecond filamentation using adjustable high-pressure gases and supercritical fluids. , 2019, , .		0
85	Photoacoustic energy conversion efficiency under femtosecond filamentation in water: dependence on temperature and filamentation regime.. , 2020, , .		0
86	Optical harmonic generation in the vicinity of molecular resonances by mid-IR laser field. , 2020, , .		0