Fedor Potemkin

List of Publications by Year
in descending order

86	837	471061 17	610482 24
papers	citations	h-index	g-index

86	86	86	410
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	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
2	High-Power Solid-State Near- and Mid-IR Ultrafast Laser Sources for Strong-Field Science. Photonics, 2022, 9, 90.	0.9	13
3	Generation of Intense Near and Mid-Infrared Femtosecond Radiation (1.2â€“2.4 Î¼m) 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
4	Dynamics of Ultrafast Phase Transitions in (001) Si on the Shock-Wave Front. International Journal of Molecular Sciences, 2022, 23, 2115.	1.8	3
5	Dynamics of ultrafast phase transitions in MgF2 triggered by laser-induced THz coherent phonons. Scientific Reports, 2022, 12, 6621.	1.6	1
6	Single-shot femtosecond bulk micromachining of silicon with mid-IR tightly focused beams. Scientific Reports, 2022, 12, 7517.	1.6	10
7	Optical Harmonics Generation under the Interaction of Intense (up to 1014 W/cm2) 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
8	Amplification properties of polycrystalline Fe:ZnSe crystals for high power femtosecond mid-IR laser systems. Optical Materials, 2021, 111, 110640.	1.7	8
9	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
10	Hybrid x-ray laser-plasma/laser-synchrotron facility for pumpâ€“probe studies of the extreme state of matter at NRC â€œKurchatov Instituteâ€• Review of Scientific Instruments, 2021, 92, 053101.	0.6	6
11	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
12	Diode-side-pumped watt-level high-energy Q-switched mid-IR Er:YLF laser. Optics Letters, 2021, 46, 5465.	1.7	9
13	The effect of chirp and wavelength for ultrafast bulk modification of solids with tightly focused laser pulses. , 2021, , .		0
14	High-efficiency, continuous-wave Fe:ZnSe mid-IR laser end pumped by an Er:YAP laser. Optics Express, 2021, 29, 44118.	1.7	17
15	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
16	Formation of Metastable Phase Si(III) in Silicon Exposed to Femtosecond Laser Radiation. Crystallography Reports, 2021, 66, 920-922.	0.1	2
17	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
18	Optical Diagnostics of Supercritical CO2 and CO2-Ethanol Mixture in the Widom Delta. Molecules, 2020, 25, 5424.	1.7	13

#	Article	IF	Citations
19	Megawatt-Level Repetitively Pulsed Erbium 3-Âµm Laser with Strong Thermal Lens Compensation. JETP Letters, 2020, 112, 478-484.	0.4	8
20	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
21	A comprehensive approach to the characterization of the deposited energy density during laserâ€“matter interactions in liquids and solids. Measurement Science and Technology, 2020, 31, 085204.	1.4	6
22	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
23	Study of the Parameters of Laser-Induced Shock Waves for Laser Shock Peening of Silicon. JETP Letters, 2020, 112, 739-744.	0.4	10
24	Femtosecond graphene mode-locked Fe:ZnSe laser at 4.4â€‰â€‰Âµm. Optics Letters, 2020, 45, 738.	1.7	61
25	40â€‰â€‰kHz, 20â€‰â€‰ns acousto-optically Q-switched 4â€‰â€‰Âµm Fe:ZnSe laser pumped by a fluoride fiber laser. Optics Letters, 2020, 45, 2788.	1.7	18
26	Ultrafast mid-IR Fe:ZnSe laser. , 2020, , .		1
27	Photoacoustic energy conversion efficiency under femtosecond filamentation in water: dependence on temperature and filamentation regime.. , 2020, , .		0
28	Optical harmonic generation in the vicinity of molecular resonances by mid-IR laser field. , 2020, , .		0
29	Extreme Infrared Nonlinear Optics of Wide-Bandgap Solids Driven by Gigawatt Fe:ZnSe Laser System. , 2019, , .		0
30	Wavelength and Energy Scaling of Deposited Energy Density during Microstructuring of Transparent Materials. , 2019, , .		1
31	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
32	Controlled nonlinearity and the lasing effect under femtosecond filamentation in dense and supercritical Xe. Laser Physics Letters, 2019, 16, 035401.	0.6	5
33	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
34	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
35	Pressure Optimization of Strong Field Low Order Harmonics Generated in Xenon Microplasma in Tight Focusing Regime. , 2019, , .		0
36	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

#	Article	IF	Citations
37	Photoacoustic and optical imaging of the femtosecond filament in water. , 2019, , .		4
38	35-mJ 150-fs Fe:ZnSe hybrid mid-IR femtosecond laser at 44â€‰â€‰Î¼m for driving extreme nonlinear optics. Optics Letters, 2019, 44, 2550.	1.7	58
39	Powerful 3-Î¼m lasers acousto-optically Q-switched with KYW and KGW crystals. Optics Letters, 2019, 44, 4837.	1.7	23
40	Third harmonic ultrafast feedback during femtosecond micromachining of solids. , 2019, , .		0
41	Compact CW mid-IR Fe:ZnSe coherent source pumped by Er:ZBLAN fiber laser. , 2019, , .		0
42	Flexible control of nonlinear processes under femtosecond filamentation using adjustable high-pressure gases and supercritical fluids. , 2019, , .		0
43	Influence of wave-front curvature on supercontinuum energy during filamentation of femtosecond laser pulses in water. Physical Review A, 2018, 97, .	1.0	12
44	Femtosecond laser pulse modification of amorphous silicon films: control of surface anisotropy. Laser Physics Letters, 2018, 15, 056001.	0.6	15
45	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
46	Solid-state powerful femtosecond mid-IR laser sources based on Fe2+ doped chalcogenides: advances and prospects. , 2018, , .		0
47	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
48	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
49	Anomalous behavior of nonlinear refractive indexes of CO₂ and Xe in supercritical states. Optics Express, 2018, 26, 13229.	1.7	19
50	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
51	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
52	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
53	Degenerate optical parametric amplifier driven by Cr:Forsterite laser. , 2018, , .		0
54	Two-dimensional photoacoustic imaging of femtosecond filament in water. Laser Physics Letters, 2018, 15, 075403.	0.6	10

#	Article	IF	Citations
55	Generation of Broadband Near-Infrared (2â€“2.5 Î¼m) 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
56	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
57	Gigawatt mid-IR (4-5 Î¼m) femtosecond hybrid Fe2+:ZnSe laser system. , 2017, , .		6
58	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
59	Fe²⁺-doped CdSe single crystal: growth, spectroscopic and laser properties, potential use as a 6Âµm broadband amplifier. Laser Physics Letters, 2017, 14, 025001.	0.6	30
60	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
61	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
62	Efficient femtosecond mid-IR (4â€“5 Î¼m) AGS OPA pumped by Cr:Forsterite laser. , 2017, , .		1
63	Mid-IR (4â€“5 Î¼m) hybrid sub-GW Fe2+:ZnSe femtosecond laser system. , 2017, , .		0
64	Femtosecond supercontinuum generation and superfilamentation in liquids and supercritical fluids. , 2016, , .		0
65	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
66	Broadband femtosecond parametric amplification in KTA close to mid-IR transparency cutoff. Journal of Optics (United Kingdom), 2016, 18, 095502.	1.0	5
67	Mid-IR (4â€“5Âµm) femtosecond multipass amplification of optical parametric seed pulse up to gigawatt level in Fe²⁺:ZnSe with optical pumping by a solid-state 3Âµm laser. Laser Physics Letters, 2016, 13, 125403.	0.6	29
68	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
69	High-power mid-IR (4â€“5 Î¼m) femtosecond laser system with a broadband amplifier based on Fe2+:ZnSe. Bulletin of the Russian Academy of Sciences: Physics, 2016, 80, 444-449.	0.1	4
70	Toward a sub-terawatt mid-IR (4â€“5Î¼m) femtosecond hybrid laser system based on parametric seed pulse generation and amplification in Fe²⁺:ZnSe. Laser Physics Letters, 2016, 13, 015401.	0.6	18
71	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
72	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

#	Article	IF	Citations
73	Powerful 3Î¼m 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
74	Superfilamentation in water with tight focusing laser beams. , 2015, , .		0
75	Dynamics of multiple bubbles, excited by a femtosecond filament in water. Laser Physics Letters, 2015, 12, 015405.	0.6	21
76	Generation of high-power femtosecond supercontinua in the near-IR spectral range using broadband parametric frequency conversion in LBO and DCDA crystals pumped at Î» = 620 nm. Quantum Electronics, 2014, 44, 824-828.	0.3	3
77	Laser control of filament-induced shock wave in water. Laser Physics Letters, 2014, 11, 106001.	0.6	23
78	Cavitation and shock waves in water, stimulated by laser filament. , 2014, , .		0
79	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
80	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
81	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
82	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
83	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
84	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
85	Evolution of a femtosecond laser-induced plasma and energy transfer processes in a SiO2 microvolume detected by the third harmonic generation technique. JETP Letters, 2009, 90, 263-267.	0.4	16
86	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