

# Sergei N Smetanin

## List of Publications by Year in descending order

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107  
papers

558  
citations

687363

13  
h-index

794594

19  
g-index

107  
all docs

107  
docs citations

107  
times ranked

145  
citing authors

#	ARTICLE	IF	CITATIONS
1	Highly efficient picosecond all-solid-state Raman laser at 1179 and 1227 nm on single and combined Raman lines in a BaWO <sub>4</sub> crystal. <i>Optics Letters</i> , 2018, 43, 2527.	3.3	34
2	High-average-power SRS conversion of radiation in a BaWO <sub>4</sub> crystal. <i>Quantum Electronics</i> , 2004, 34, 649-651.	1.0	25
3	Efficient conversion of Nd:YAG laser radiation to the eye-safe spectral region by stimulated Raman scattering in BaWO <sub>4</sub> crystal. <i>Quantum Electronics</i> , 2010, 40, 710-715.	1.0	25
4	Synchronously-pumped all-solid-state SrMoO <sub>4</sub> Raman laser generating at combined vibrational Raman modes with 26-fold pulse shortening down to 1.4 ps at 1220 nm. <i>Optics and Laser Technology</i> , 2019, 111, 129-133.	4.6	23
5	Stimulated Raman Scattering in Alkali-Earth Tungstate and Molybdate Crystals at Both Stretching and Bending Raman Modes under Synchronous Picosecond Pumping with Multiple Pulse Shortening Down to 1 ps. <i>Crystals</i> , 2019, 9, 167.	2.2	19
6	Four-wave-mixing and nonlinear cavity dumping of 280 picosecond 2nd Stokes pulse at 1.3 μm from Nd:SrMoO <sub>4</sub> self-Raman laser. <i>Laser Physics Letters</i> , 2016, 13, 015801.	1.4	18
7	Phase locking of optically coupled lasers by gain gratings in an active medium. <i>Quantum Electronics</i> , 2003, 33, 659-670.	1.0	17
8	Parametric coupling of frequency components at stimulated Raman scattering in solids. <i>Physics-Uspokhi</i> , 2010, 53, 611-617.	2.2	16
9	Intracavity SRS conversion in diode-pumped multifunctional Nd <sup>3+</sup> :SrMoO <sub>4</sub> laser crystal. <i>Quantum Electronics</i> , 2010, 40, 704-709.	1.0	16
10	Multi-wave SRS oscillation in PbMoO <sub>4</sub> and PbMo <sub>0.5</sub> W <sub>0.5</sub> O <sub>4</sub> crystals under 18 picosecond laser pumping. <i>Laser Physics Letters</i> , 2012, 9, 853-857.	1.4	16
11	High-speed ablation of ultradeep channels by a phase-conjugate dynamically controlled passively Q-switched Nd:YAG laser. <i>Quantum Electronics</i> , 2007, 37, 956-960.	1.0	15
12	Loop laser cavities with self-pumped phase-conjugate mirrors in low-gain active media for phase-locked multichannel laser systems. <i>Quantum Electronics</i> , 2011, 41, 207-211.	1.0	15
13	Parametric second Stokes Raman laser output pulse shortening to 300 ps due to depletion of pumping of intracavity Raman conversion. <i>Applied Physics B: Lasers and Optics</i> , 2016, 122, 1.	2.2	14
14	Realisation of four-wave mixing phase matching for frequency components at intracavity stimulated Raman scattering in a calcite crystal. <i>Quantum Electronics</i> , 2013, 43, 512-518.	1.0	13
15	Multi-wavelength picosecond BaWO <sub>4</sub> Raman laser with long and short Raman shifts and 12-fold pulse shortening down to 3 ps at 1227 nm. <i>Laser Physics</i> , 2018, 28, 025403.	1.2	13
16	Efficient synchronously-pumped all-solid-state Raman laser at 1178 and 1227 nm on stretching and bending anionic group vibrations in a SrWO <sub>4</sub> crystal with pulse shortening down to 1.4 ps. <i>Optics and Laser Technology</i> , 2019, 119, 105660.	4.6	13
17	Stimulated Raman Scattering in Yttrium, Gadolinium, and Calcium Orthovanadate Crystals with Single and Combined Frequency Shifts under Synchronous Picosecond Pumping for Sub-Picosecond or Multi-Wavelength Generation around 1.2 μm. <i>Crystals</i> , 2020, 10, 871.	2.2	13
18	Highly efficient, high-energy, picosecond, synchronously pumped Raman laser at 1171 and 1217 nm based on PbMoO <sub>4</sub> crystals with single and combined Raman shifts. <i>Optics Express</i> , 2020, 28, 39944.	3.4	13

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19	Low-threshold collinear parametric Raman comb generation in calcite under 532 and 1064 nm picosecond laser pumping. <i>Laser Physics Letters</i> , 2015, 12, 095403.	1.4	12
20	Theoretical study of collinear optical frequency comb generation under multi-wave, transient stimulated Raman scattering in crystals. <i>Quantum Electronics</i> , 2014, 44, 1012-1021.	1.0	11
21	Low-threshold parametric Raman generation of high-order Raman components in crystals. <i>Applied Physics B: Lasers and Optics</i> , 2014, 117, 225-234.	2.2	11
22	Increasing the generation efficiency of a self-phase-conjugate Nd:YAG laser. <i>Doklady Physics</i> , 2006, 51, 296-299.	0.7	10
23	50-ÅJ level, 20-picosecond, narrowband difference-frequency generation at 46, 54, 75, 92, and 108 Åµm in LiGaS <sub>2</sub> and LiGaSe <sub>2</sub> at Nd:YAG laser pumping and various crystalline Raman laser seedings. <i>Optical Materials Express</i> , 2020, 10, 1881.	3.0	10
24	Study of diffraction-coupled lasing in a set of lasers with self-pumped phase-conjugate mirrors on gain gratings in the case of short-range coupling. <i>Quantum Electronics</i> , 2009, 39, 31-35.	1.0	9
25	Phase matching of four-wave interactions of SRS components in birefringent SRS-active crystals. <i>Quantum Electronics</i> , 2012, 42, 224-227.	1.0	9
26	Parametric Raman crystalline anti-Stokes laser at 503 nm with collinear beam interaction at tangential phase matching. <i>Applied Physics B: Lasers and Optics</i> , 2017, 123, 1.	2.2	9
27	Extracavity pumped parametric Raman nanosecond crystalline anti-Stokes laser at 954 nm with collinear orthogonally polarized beam interaction at tangential phase matching. <i>Optics Express</i> , 2018, 26, 22637.	3.4	9
28	Self-Q-switching at phase conjugation in active media. , 2002, , .		8
29	Four-wave-mixing generation of SRS components in BaWO <sub>4</sub> and SrWO <sub>4</sub> crystals under picosecond excitation. <i>Quantum Electronics</i> , 2013, 43, 616-620.	1.0	8
30	All-solid-state Nd:YAG lasers with self-pumped multiwave-mixing phase conjugate cavities. <i>Optical Memory and Neural Networks (Information Optics)</i> , 2013, 22, 267-271.	1.0	8
31	Stimulated Raman scattering of 18 picosecond laser pulses in strontium barium niobate crystal. <i>Laser Physics Letters</i> , 2012, 9, 519-523.	1.4	7
32	High-power phase-locked Nd:YAG laser system with long-range coupling of three self-pumped phase-conjugated oscillators. <i>Laser Physics</i> , 2006, 16, 1610-1615.	1.2	6
33	Laser drilling of superdeep micron holes in various materials with a programmable control of laser radiation parameters. <i>Quantum Electronics</i> , 2007, 37, 99-102.	1.0	6
34	860 fs GdVO <sub>4</sub> Raman laser at 1228 nm pumped by 36 ps, 1063 nm laser. <i>Laser Physics Letters</i> , 2019, 16, 085401.	1.4	6
35	Synchronously-pumped, all-solid-state, picosecond Raman laser at 1169 and 1222 nm on single and combined Raman modes in a Ca <sub>3</sub> (VO <sub>4</sub> ) <sub>2</sub> crystal with 30-times pulse shortening down to 1.2 ps. <i>Laser Physics Letters</i> , 2020, 17, 115402.	1.4	6
36	Single-mode Nd:YAG laser with a self-pumped phase-conjugate loop cavity. <i>Quantum Electronics</i> , 1999, 29, 424-427.	1.0	5

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37	Control of phase locking in a set of lasers with self-pumped phase-conjugate gain-grating mirrors using a passive Q-switch. <i>Quantum Electronics</i> , 2011, 41, 202-206.	1.0	5
38	High power Nd:YAG laser with self-pumped phase-conjugate loop cavity and repetitive pulsed diode-matrix side-pumping. <i>Proceedings of SPIE</i> , 2013, , .	0.8	5
39	Generation regimes of a pulsed Nd:YAG laser with transverse LED pumping and multiloop self-pumped phase-conjugate cavity. <i>Technical Physics</i> , 2014, 59, 1844-1848.	0.7	5
40	Determination of the stimulated raman scattering threshold for a pump pulse of arbitrary width. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , 2016, 121, 395-404.	0.6	5
41	Nanosecond parametric Raman anti-Stokes SrWO <sub>4</sub> laser at 507 nm with collinear phase matching. <i>Optics Express</i> , 2020, 28, 22919.	3.4	5
42	Oscillation dynamics of a phase-locked three-channel holographic Nd:YAG laser system. <i>Quantum Electronics</i> , 2007, 37, 255-258.	1.0	4
43	Four-wave parametric processes in multicascade SRS conversion of neodymium laser radiation into an eye-safe region. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , 2009, 107, 353-358.	0.6	4
44	SRS generation under phase matching conditions for four-wave interactions of SRS components in birefringent Raman-active crystals. <i>Optics and Spectroscopy (English Translation of Optika I Spektroskopiya)</i> , 2009, 107, 353-358.	0.6	4
45	Holographic self-Q-switching of Nd:YAG all-solid-state lasers with Cr:YAG saturable absorber. <i>Russian Journal of Physical Chemistry B</i> , 2015, 9, 521-525.	1.3	4
46	Stimulated Raman Scattering in Pb(MoO <sub>4</sub> ) <sub>1-x</sub> (WO <sub>4</sub> ) <sub>x</sub> with x = 0, 0.5, 0.8 and 1.0 with Combined Frequency Shifts on High- and Low-Frequency Raman Modes under Synchronous Picosecond Laser Pumping. <i>Crystals</i> , 2022, 12, 148.	2.2	4
47	High-energy BaWO <sub>4</sub> Raman laser pumped by a self-phase-conjugated Nd:GCG laser. , 2004, , .		3
48	Phase locking of multichannel holographic laser systems with long-range coupling by gain gratings. <i>Doklady Physics</i> , 2008, 53, 467.	0.7	3
49	Comparative analysis of the use of various solid-state laser media for the self-starting of four-wave PCW generation in a loop laser resonator. <i>Quantum Electronics</i> , 2013, 43, 37-46.	1.0	3
50	Passively Q-switched high-energy all-solid-state holographic Nd:YAG laser with a multiloop cavity. , 2015, , .		3
51	Multiwavelength, picosecond, synchronously pumped, Pb(MoO <sub>4</sub> ) <sub>0.2</sub> (WO <sub>4</sub> ) <sub>0.8</sub> Raman laser oscillating at 12 wavelengths in a range of 1128-1360 nm. <i>Optics Letters</i> , 2021, 46, 5272.	3.3	3
52	Laser Pulse Shortening via Zero-Dispersion Phase Matching of Parametric Raman Interactions in Crystals. <i>Crystals</i> , 2021, 11, 19.	2.2	3
53	Powerful neodymium lasers with the self-phase-conjugation. , 2001, , .		2
54	Advanced multichannel laser systems with phase conjugation and interchannel phase locking by laser-gain-hologram long- and short-range coupling. <i>Laser Physics</i> , 2009, 19, 1117-1124.	1.2	2

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55	Principles of laser drilling with adapted control over the parameters of repeated laser pulses. Bulletin of the Russian Academy of Sciences: Physics, 2012, 76, 1115-1118.	0.6	2
56	Random lasing in a nanocomposite medium. Quantum Electronics, 2013, 43, 63-70.	1.0	2
57	High-energy compact all-solid-state holographic Nd:YAG laser with a multiloop cavity. , 2013, , .		2
58	Transient stimulated raman scattering in crystals during motion of populations of vibrational states. Journal of Experimental and Theoretical Physics, 2014, 119, 36-48.	0.9	2
59	Self-Q-switching of a loop laser cavity with a self-pumped four-wave phase-conjugate mirror in an active laser medium. Optics and Spectroscopy (English Translation of Optika i Spektroskopiya), 2015, 119, 526-533.	0.6	2
60	Study of lasing on the $4F_{3/2} \rightarrow 4I_{13/2}$ secondary transition of Nd <sup>3+</sup> ions in a phase-conjugate Nd <sup>3+</sup> :YAG laser. Quantum Electronics, 2017, 47, 26-31.	1.0	2
61	Eye-safe, Diode-pumped, Passively Q-switched, Self-Raman Nd:SrMoO <sub>4</sub> Laser Generating at $4F_{3/2} \rightarrow 4I_{13/2}$ Transition. , 2017, , .		2
62	Generation of 120 ps, 1168 nm anti-Stokes pulses from the all-solid-state, self-mode-locked, parametric Raman CaCO <sub>3</sub> laser with intracavity pumping by 1338 nm Nd:YAG laser. , 2017, , .		2
63	<title>Multi-channel laser system with phase locking by holographic gain gratings and small diameter deep hole drilling</title>. , 2007, , .		1
64	Technologies of perforation of closely spaced micron holes with the help of neodymium <sup>3+</sup> LiF:F <sub>2</sub> -lasers. Quantum Electronics, 2009, 39, 385-387.	1.0	1
65	The phase locking control of the multichannel holographic neodymium laser system with the help of a passive Q-switch. Doklady Physics, 2010, 55, 13-17.	0.7	1
66	A method for controlling the phase locking of a multichannel laser system. Bulletin of the Russian Academy of Sciences: Physics, 2012, 76, 637-642.	0.6	1
67	Nd <sup>3+</sup> :YAG laser based on the $4F_{3/2} \rightarrow 4I_{13/2}$ secondary transition with a phase-conjugate electro-optically Q-switched open multiloop cavity. Quantum Electronics, 2019, 49, 804-809.	1.0	1
68	Lamp-pumped and diode-pumped YAG:Nd <sup>3+</sup> laser systems with gain-grating phase conjugation and interchannel phase locking control by a passive LiF:F <sub>2</sub> $\rightarrow$ Q-switch. , 2011, , .		1
69	Measurement of Multi-Stokes Ultrashort Pulse Shapes of Synchronously Pumped Stimulated Raman Scattering on Combined Vibrational Modes in a BaWO <sub>4</sub> Crystal. Crystals, 2022, 12, 495.	2.2	1
70	High-effective laser hole drilling in metals and alloys. , 2000, 3888, 685.		0
71	100-W-average-power Nd:YAG laser with adaptive cavity formed by self-induced population gratings. , 2000, , .		0
72	Single-mode Nd lasers with adaptive cavity and self-phase-conjugation. , 2000, , .		0

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73	A YAG:Nd laser with a Sagnac interferometer and a passive laser Q-switch on LiF:2 F <sup>+</sup> crystal. Doklady Physics, 2001, 46, 79-84.	0.7	0
74	High-average-power BaWO <sub>4</sub> /Raman laser pumped by a self-phase-conjugated Nd-laser. , 0, , .		0
75	Phase locking of holographic solid state Nd-lasers by parallel coupling in gain gratings. , 2003, , .		0
76	Phase locking of holographic solid-state Nd-lasers via four-wave-mixing in saturable-gain media. , 0, , .		0
77	High-productive laser-assisted microtechnology of superdeep hole drilling. , 2007, , .		0
78	<title>Lasing of a phase-locked three-channel laser system based on oscillators with self-phase-conjugate loop cavities</title>. , 2007, , .		0
79	Multichannel laser system with phase conjugation and interchannel phase locking by laser gain hologram. , 2007, , .		0
80	<title>High rate ablative formation of ultra-deep channels by self-adaptive Nd:YAG laser with dynamically adjustable passive Q-switch</title>. Proceedings of SPIE, 2008, , .	0.8	0
81	<title>Phased multichannel laser systems with high spatial emission brightness</title>. Proceedings of SPIE, 2010, , .	0.8	0
82	Numerical simulation of a passive Q-switching operation of the diode-pumped solid-state laser with a multiloop self-phase-conjugate cavity. , 2014, , .		0
83	Solid-state blue laser by nonlinear frequency conversion of 1.338-µm Nd:YAG laser radiation. , 2014, , .		0
84	Passive V:YAG Q-switching operation of 1.34-µm Nd:YAG laser with loop cavity. , 2014, , .		0
85	On the influence of the local vibration on spectral and laser characteristics of F <sup>2+</sup> -colour centres in LiF crystals at low temperatures. Quantum Electronics, 2015, 45, 1111-1116.	1.0	0
86	The diode-pumped Nd:SrMoO <sub>4</sub> self-Raman-parametric laser generation of shortened 300-picosecond pulses without any mode-locking device. , 2016, , .		0
87	1.34-µm Nd:YAG laser with an open-loop self-adaptive cavity. , 2016, , .		0
88	Parametric Raman anti-Stokes laser at 503 nm with phase-matched collinear beam interaction of orthogonally polarized Raman components in calcite under 532 nm 20 ps laser pumping. Proceedings of SPIE, 2017, , .	0.8	0
89	Parametric Raman crystalline anti-Stokes laser at 503 nm with collinear orthogonally polarized beam interaction at tangential phase matching. , 2017, , .		0
90	Spontaneous and Stimulated Raman Scattering in Tungstate and Molybdate Crystals at Both High and Low Frequency Anionic Group Vibrations. , 2018, , .		0

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91	Synchronously-Pumped Picosecond Raman Laser at 1169 and 1222 nm with Single and Combined Raman Mode Shifts in a $\text{Ca}_3(\text{VO}_4)_2$ Crystal. , 2019, , .		0
92	Zero-Dispersion Phase-Matched Extracavity Parametric Raman $\text{CaCO}_3$ Laser Generating 3rd Stokes Single 80-ps Pulse at 1629 nm under Nanosecond Pumping at 1064 nm. , 2019, , .		0
93	860-Femtosecond Synchronously-Pumped $\text{GdVO}_4$ Raman Laser at 1228 nm with 36-Picosecond 1063 nm Pumping. , 2019, , .		0
94	Multiwavelength Ultrafast SRS Oscillation in $\text{Pb}(\text{MoO}_4)_0.5(\text{WO}_4)_0.5$ Mixed Crystal with Combined Frequency Shifts on Stretching and Bending Vibrations of Molybdate and Tungstate Anionic Groups. , 2021, , .		0
95	Phase Locking Control of the multichannel holographic laser system with the help of passive Q-switch. , 2010, , .		0
96	Low-threshold collinear parametric Raman comb generation in calcite. , 2015, , .		0
97	Wide-Range Peak Power Control in the Diode-Pumped Multiloop Self-Phase-Conjugate Nd:YAG Laser by Different Passive Q-Switches. , 2015, , .		0
98	Self-organized Separation of Single 120 ps, 1168-nm Anti-Stokes Pulse from the Pulse Train Generated by All-solid-state, Self-mode-locked, Parametric Raman Nd:YAG/ $\text{CaCO}_3$ Laser. , 2017, , .		0
99	Multiwavelength, All-solid-state, Synchronously Pumped, Ultrafast $\text{BaWO}_4$ Raman Laser With Long and Short Raman Shifts and 12-times Pulse Shortening Down To 3 ps. , 2017, , .		0
100	All-solid-state, synchronously pumped, ultrafast $\text{BaWO}_4$ Raman laser with long and short Raman shifts generating at 1180, 1225, and 1323 nm. , 2017, , .		0
101	Extra-cavity Pumped Parametric Raman Crystalline Anti-Stokes Laser at 954 nm with Collinear Orthogonally Polarized Beam Interaction at Tangential Phase Matching. , 2018, , .		0
102	Difference-frequency Generation at 9.2 & 4.6 $\hat{1}/4\text{m}$ in $\text{LiGaS}_2$ Pumped by a 20-picosecond Nd:YAG/ $\text{CaCO}_3$ Raman Laser. , 2018, , .		0
103	50- $\hat{1}/4\text{J}$ level, 20-picosecond difference-frequency generation at 4.6-9.2 $\hat{1}/4\text{m}$ in $\text{LiGaS}_2$ and $\text{LiGaSe}_2$ at Nd:YAG laser pumping and various crystalline Raman laser seeding. , 2019, , .		0
104	Laser Output Radiation Characteristics Controlled by the $\text{GdVO}_4$ Crystal Length in the Extracavity Synchronously Pumped Raman Laser with Combined Raman Shift Resulting in Generation of 860 fs Pulses at 1228 nm. , 2019, , .		0
105	Anti-Stokes nanosecond cyan 503, 507, and 508 nm generation at tangential phase matching in extracavity parametric Raman lasers based on crystals with different birefringence. , 2019, , .		0
106	Synchronously-pumped all-solid-state Raman lasers based on $\text{YVO}_4$ and $\text{GdVO}_4$ crystals with pulse shortening by higher than 30 times down to 850 fs. , 2019, , .		0
107	Efficient synchronously-pumped all-solid-state $\text{SrWO}_4$ Raman laser at 1178 and 1227 nm on single and combined Raman modes with 26-fold pulse shortening down to 1.4 ps. , 2019, , .		0