

# Oleg A Sapozhnikov

## List of Publications by Year in descending order

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131  
papers

4,567  
citations

117453

34  
h-index

106150

65  
g-index

169  
all docs

169  
docs citations

169  
times ranked

2165  
citing authors

#	ARTICLE	IF	CITATIONS
1	Improving Burst Wave Lithotripsy Effectiveness for Small Stones and Fragments by Increasing Frequency: Theoretical Modeling and <i>Ex Vivo</i> Study. <i>Journal of Endourology</i> , 2022, 36, 996-1003.	1.1	3
2	B/A Measurement of Clear Cell Renal Cell Carcinoma versus Healthy Kidney Tissue. <i>Ultrasound in Medicine and Biology</i> , 2022, , .	0.7	0
3	Phase-Aberration Correction for HIFU Therapy Using a Multielement Array and Backscattering of Nonlinear Pulses. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2021, 68, 1040-1050.	1.7	12
4	Holographic extraction of plane waves from an ultrasound beam for acoustic characterization of an absorbing layer of finite dimensions. <i>Journal of the Acoustical Society of America</i> , 2021, 149, 386-404.	0.5	2
5	A review on <i>B/A</i> measurement methods with a clinical perspective. <i>Journal of the Acoustical Society of America</i> , 2021, 149, 2200-2237.	0.5	15
6	A Prototype Therapy System for Boiling Histotripsy in Abdominal Targets Based on a 256-Element Spiral Array. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2021, 68, 1496-1510.	1.7	22
7	Inertial Cavitation Behaviors Induced by Nonlinear Focused Ultrasound Pulses. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2021, 68, 2884-2895.	1.7	10
8	Ultrastructural Analysis of Volumetric Histotripsy Bio-effects in Large Human Hematomas. <i>Ultrasound in Medicine and Biology</i> , 2021, 47, 2608-2621.	0.7	6
9	“HIFU Beam:” A Simulator for Predicting Axially Symmetric Nonlinear Acoustic Fields Generated by Focused Transducers in a Layered Medium. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2021, 68, 2837-2852.	1.7	23
10	Maximizing mechanical stress in small urinary stones during burst wave lithotripsy. <i>Journal of the Acoustical Society of America</i> , 2021, 150, 4203-4212.	0.5	4
11	Biofabrication of a Functional Tubular Construct from Tissue Spheroids Using Magnetoacoustic Levitational Directed Assembly. <i>Advanced Healthcare Materials</i> , 2020, 9, e2000721.	3.9	19
12	An investigation of elastic waves producing stone fracture in burst wave lithotripsy. <i>Journal of the Acoustical Society of America</i> , 2020, 147, 1607-1622.	0.5	13
13	Modeling of photoelastic imaging of mechanical stresses in transparent solids mimicking kidney stones. <i>Journal of the Acoustical Society of America</i> , 2020, 147, 3819-3829.	0.5	6
14	Noninvasive acoustic manipulation of objects in a living body. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 16848-16855.	3.3	77
15	Bilayer aberration-inducing gel phantom for high intensity focused ultrasound applications. <i>Journal of the Acoustical Society of America</i> , 2020, 148, 3569-3580.	0.5	6
16	The generalized finite amplitude insert-substitution method for B/A measurement of tissues and liquids. <i>Proceedings of Meetings on Acoustics</i> , 2020, , .	0.3	2
17	Quantification of Acoustic Radiation Forces on Solid Objects in Fluid. <i>Physical Review Applied</i> , 2019, 12, .	1.5	17
18	Simulation of nonlinear trans-skull focusing and formation of shocks in brain using a fully populated ultrasound array with aberration correction. <i>Journal of the Acoustical Society of America</i> , 2019, 146, 1786-1798.	0.5	19

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19	Using acoustic holography to characterize absorbing layers. Proceedings of Meetings on Acoustics, 2019, , .	0.3	2
20	Assembly of a ring-shaped construct from tissue spheroids in a magneto-acoustic field. Proceedings of Meetings on Acoustics, 2019, , .	0.3	2
21	Method for Designing Multielement Fully Populated Random Phased Arrays for Ultrasound Surgery Applications. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2018, 65, 630-637.	1.7	25
22	The role of trapped bubbles in kidney stone detection with the color Doppler ultrasound twinkling artifact. Physics in Medicine and Biology, 2018, 63, 025011.	1.6	23
23	Design of a Fully Populated Phased Array for Transcranial HIFU Therapies Based on Shock-Wave Exposures with Aberration Correction. , 2018, , .		0
24	Dependence of inertial cavitation induced by high intensity focused ultrasound on transducer $F$ -number and nonlinear waveform distortion. Journal of the Acoustical Society of America, 2018, 144, 1160-1169.	0.5	20
25	Field Characterization and Compensation of Vibrational Nonuniformity for a 256-Element Focused Ultrasound Phased Array. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2018, 65, 1618-1630.	1.7	23
26	Acoustic radiation torque of an acoustic-vortex spanner exerted on axisymmetric objects. Applied Physics Letters, 2018, 112, 254101.	1.5	16
27	Ultrasound-based cell sorting with microbubbles: A feasibility study. Journal of the Acoustical Society of America, 2018, 144, 41-52.	0.5	5
28	Shock formation and nonlinear saturation effects in the ultrasound field of a diagnostic curvilinear probe. Journal of the Acoustical Society of America, 2017, 141, 2327-2337.	0.5	12
29	A Prototype Therapy System for Transcutaneous Application of Boiling Histotripsy. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2017, 64, 1542-1557.	1.7	55
30	Modeling of the acoustic radiation force in elastography. Journal of the Acoustical Society of America, 2017, 142, 947-961.	0.5	13
31	Design of HIFU Transducers for Generating Specified Nonlinear Ultrasound Fields. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2017, 64, 374-390.	1.7	67
32	Measurement and modeling of acoustic radiation force of focused ultrasound beam on an elastic sphere in water. Proceedings of Meetings on Acoustics, 2017, , .	0.3	0
33	The effect of shear waves in an elastic sphere on the radiation force from a quasi-Gaussian beam. Proceedings of Meetings on Acoustics, 2017, 32, .	0.3	0
34	Notice of Removal: Design and characterization of a 2-dimensional focused 1.5-MHz ultrasound array with a compact spiral arrangement of 256 circular elements. , 2017, , .		0
35	Experimental verification of phased receiving waveguide array for ultrasonic imaging in aggressive liquids. Proceedings of Meetings on Acoustics, 2017, , .	0.3	1
36	Notice of Removal: Imaging in situ human kidney stones with the color Doppler ultrasound twinkling artifact. , 2017, , .		0

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37	Design and characterization of a research phantom for shock-wave enhanced irradiations in high intensity focused ultrasound therapy. , 2017, , .		0
38	Design and characterization of a research phantom for shock-wave enhanced irradiations in high intensity focused ultrasound therapy. , 2017, , .		0
39	Notice of Removal: Stress waves in model kidney stones exposed to burst wave lithotripsy. , 2017, , .		0
40	Reconstruction of nonlinear ultrasound field of an annular therapeutic array from acoustic holograms of its individual elements. Proceedings of Meetings on Acoustics, 2017, 32, .	0.3	3
41	Design of HIFU Transducers to Generate Specific Nonlinear Ultrasound Fields. Physics Procedia, 2016, 87, 132-138.	1.2	23
42	An Ultrasonic Caliper Device for Measuring Acoustic Nonlinearity. Physics Procedia, 2016, 87, 93-98.	1.2	2
43	Acoustic nonlinearity as a mechanism for liquid drop explosions in drop-chain fountains generated by a focused ultrasound beam. , 2016, 2016, .		0
44	PD42-02 A PRECLINICAL IMAGE-GUIDED THERAPY SYSTEM FOR BURST WAVE LITHOTRIPSY. Journal of Urology, 2015, 193, .	0.2	1
45	Experimental study of acoustic radiation force of an ultrasound beam on absorbing and scattering objects. AIP Conference Proceedings, 2015, 1685, .	0.3	0
46	Acoustic holography as a metrological tool for characterizing medical ultrasound sources and fields. Journal of the Acoustical Society of America, 2015, 138, 1515-1532.	0.5	82
47	Investigation into the Mechanisms of Tissue Atomization by High-Intensity Focused Ultrasound. Ultrasound in Medicine and Biology, 2015, 41, 1372-1385.	0.7	16
48	Ultrasonic atomization of liquids in drop-chain acoustic fountains. Journal of Fluid Mechanics, 2015, 766, 129-146.	1.4	61
49	Fragmentation of Urinary Calculi InÂVitro by Burst Wave Lithotripsy. Journal of Urology, 2015, 193, 338-344.	0.2	97
50	Improved detection of kidney stones using an optimized Doppler imaging sequence. , 2014, 2014, 452-455.		14
51	A new active cavitation mapping technique for pulsed HIFU applications-bubble doppler. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2014, 61, 1698-1708.	1.7	36
52	2022 EVIDENCE FOR TRAPPED SURFACE MICRO-BUBBLES AS THE ETIOLOGY OF THE TWINKLING ARTIFACT OBSERVED FROM ULTRASOUND IMAGING OF KIDNEY STONES. Journal of Urology, 2013, 189, .	0.2	1
53	Characterization of a multi-element clinical HIFU system using acoustic holography and nonlinear modeling. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2013, 60, 1683-1698.	1.7	114
54	The use of twinkling artifact of Doppler imaging to monitor cavitation in tissue during high intensity focused ultrasound therapy. Proceedings of Meetings on Acoustics, 2013, 19, .	0.3	8

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55	Radiation force of an arbitrary acoustic beam on an elastic sphere in a fluid. Journal of the Acoustical Society of America, 2013, 133, 661-676.	0.5	152
56	Evidence for Trapped Surface Bubbles as the Cause for the Twinkling Artifact in Ultrasound Imaging. Ultrasound in Medicine and Biology, 2013, 39, 1026-1038.	0.7	46
57	The role of acoustic nonlinearity in tissue heating behind a rib cage using a high-intensity focused ultrasound phased array. Physics in Medicine and Biology, 2013, 58, 2537-2559.	1.6	35
58	Rectified growth of histotripsy bubbles. Proceedings of Meetings on Acoustics, 2013, 19, .	0.3	9
59	Improved hydrophone calibration by combining acoustic holography with the radiation force balance measurements. Proceedings of Meetings on Acoustics, 2013, , .	0.3	5
60	Bubbles trapped on the surface of kidney stones as a cause of the twinkling artifact in ultrasound imaging. Proceedings of Meetings on Acoustics, 2013, 19, .	0.3	5
61	Ultrasonic atomization: A mechanism of tissue fractionation. Proceedings of Meetings on Acoustics, 2013, , .	0.3	0
62	Ultrasonic atomization: A mechanism of tissue fractionation. Journal of the Acoustical Society of America, 2013, 133, 3316-3316.	0.5	0
63	Tissue atomization by high intensity focused ultrasound. , 2012, 2012, 1003-1006.		2
64	Characterization of nonlinear ultrasound fields of 2D therapeutic arrays. , 2012, 2012, 1-4.		6
65	Shear waves in a cubic nonlinear inhomogeneous resonator. , 2012, , .		0
66	Ultrasonic atomization of tissue and its role in tissue fractionation by high intensity focused ultrasound. Physics in Medicine and Biology, 2012, 57, 8061-8078.	1.6	95
67	Disintegration of Tissue Using High Intensity Focused Ultrasound: Two Approaches That Utilize Shock Waves. Acoustics Today, 2012, 8, 24.	1.0	86
68	Mechanisms for saturation of nonlinear pulsed and periodic signals in focused acoustic beams. Acoustical Physics, 2012, 58, 81-89.	0.2	23
69	An exact solution to the Helmholtz equation for a quasi-Gaussian beam in the form of a superposition of two sources and sinks with complex coordinates. Acoustical Physics, 2012, 58, 41-47.	0.2	27
70	Cavitation clouds created by shock scattering from bubbles during histotripsy. Journal of the Acoustical Society of America, 2011, 130, 1888-1898.	0.5	256
71	Laser ultrasonic investigation of laminate disbonding. Journal of Physics: Conference Series, 2011, 278, 012010.	0.3	0
72	The dynamics of histotripsy bubbles. AIP Conference Proceedings, 2011, , .	0.3	1

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73	Characterization of cylindrical ultrasonic transducers using acoustic holography. <i>Acoustical Physics</i> , 2011, 57, 94-105.	0.2	6
74	Determination of the exact solutions to the inhomogeneous burgers equation with the use of the darbox transformation. <i>Acoustical Physics</i> , 2011, 57, 311-319.	0.2	11
75	Shear waves in a resonator with cubic nonlinearity. <i>Acoustical Physics</i> , 2011, 57, 779-786.	0.2	7
76	Observations of the collapses and rebounds of millimeter-sized lithotripsy bubbles. <i>Journal of the Acoustical Society of America</i> , 2011, 130, 3531-3540.	0.5	18
77	Controlled tissue emulsification produced by high intensity focused ultrasound shock waves and millisecond boiling. <i>Journal of the Acoustical Society of America</i> , 2011, 130, 3498-3510.	0.5	154
78	A reduced-order, single-bubble cavitation model with applications to therapeutic ultrasound. <i>Journal of the Acoustical Society of America</i> , 2011, 130, 3511-3530.	0.5	35
79	Standing waves in an elastic layer loaded with a finite mass. <i>Acoustical Physics</i> , 2010, 56, 168-173.	0.2	6
80	Standing shear waves in rubberlike layered media. <i>Acoustical Physics</i> , 2010, 56, 605-612.	0.2	3
81	Determination of the elastic properties of layered materials using laser excitation of ultrasound. <i>Physics of Wave Phenomena</i> , 2010, 18, 297-302.	0.3	9
82	Nonlinear propagation of spark-generated $N$ -waves in air: Modeling and measurements using acoustical and optical methods. <i>Journal of the Acoustical Society of America</i> , 2010, 128, 3321-3333.	0.5	33
83	Therapeutic ultrasound: Recent trends and future perspectives. <i>Physics Procedia</i> , 2010, 3, 25-34.	1.2	22
84	Potential Temperature Limitations of Bubble-Enhanced Heating during HIFU. <i>AIP Conference Proceedings</i> , 2010, , .	0.3	3
85	Ureteroscopic Ultrasound Technology to Size Kidney Stone Fragments: Proof of Principle Using a Miniaturized Probe in a Porcine Model. <i>Journal of Endourology</i> , 2010, 24, 939-942.	1.1	6
86	Ultrasonic holography of 3D objects. , 2009, , .		3
87	Acousto-optic interaction in laser vibrometry in a liquid. <i>Acoustical Physics</i> , 2009, 55, 365-375.	0.2	8
88	The mechanism of lesion formation by focused ultrasound ablation catheter for treatment of atrial fibrillation. <i>Acoustical Physics</i> , 2009, 55, 647-656.	0.2	16
89	The role of compressional pressure in the formation of dense bubble clouds in histotripsy. , 2009, , .		14
90	Group analysis of the Khokhlovâ€Zabolotskaya type equations.. <i>Journal of the Acoustical Society of America</i> , 2009, 126, 2200.	0.5	0

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91	A PASSIVE TECHNIQUE TO MONITOR STONE COMMINATION DURING SHOCK WAVE LITHOTRIPSY. Journal of Urology, 2008, 179, 434-435.	0.2	1
92	Simulated and experimental analysis of PVDF membrane hydrophone low-frequency response for accurate measurements of lithotripsy shockwaves. , 2008, , .		0
93	Bubble Proliferation in Shock Wave Lithotripsy Occurs during Inertial Collapse. AIP Conference Proceedings, 2008, , .	0.3	8
94	Acoustic characterization of high intensity focused ultrasound fields: A combined measurement and modeling approach. Journal of the Acoustical Society of America, 2008, 124, 2406-2420.	0.5	258
95	The use of resonant scattering to identify stone fracture in shock wave lithotripsy. Journal of the Acoustical Society of America, 2007, 121, EL41-EL47.	0.5	16
96	A mechanistic analysis of stone fracture in lithotripsy. Journal of the Acoustical Society of America, 2007, 121, 1190-1202.	0.5	140
97	Advantage of a Broad Focal Zone in SWL: Synergism Between Squeezing and Shear. AIP Conference Proceedings, 2007, , .	0.3	0
98	A Passive Technique to Identify Stone Comminution During Shock Wave Lithotripsy. AIP Conference Proceedings, 2007, , .	0.3	1
99	Compression and amplification of an ultrasonic pulse reflected from a one-dimensional layered structure. Acoustical Physics, 2007, 53, 127-135.	0.2	10
100	Opto-acoustic diagnostics of the thermal action of high-intensity focused ultrasound on biological tissues: the possibility of its applications and model experiments. Quantum Electronics, 2006, 36, 1097-1102.	0.3	32
101	Use of a bovine eye lens for observation of HIFU-induced lesions in real-time. Ultrasound in Medicine and Biology, 2006, 32, 1731-1741.	0.7	13
102	Transient acoustic holography for reconstructing the particle velocity of the surface of an acoustic transducer. Acoustical Physics, 2006, 52, 324-330.	0.2	29
103	Parabolic equation for nonlinear acoustic wave propagation in inhomogeneous moving media. Acoustical Physics, 2006, 52, 623-632.	0.2	41
104	New Devices and Old Pitfalls in Shock Wave Therapy. AIP Conference Proceedings, 2006, , .	0.3	0
105	Interactions of Cavitation Bubbles Observed by High-Speed Imaging in Shock Wave Lithotripsy. AIP Conference Proceedings, 2006, , .	0.3	3
106	Role of Shear and Longitudinal Waves in Stone Comminution by Lithotripter Shock Waves. AIP Conference Proceedings, 2006, , .	0.3	1
107	Detecting Fragmentation of Kidney Stones in Lithotripsy by Means of Shock Wave Scattering. AIP Conference Proceedings, 2006, , .	0.3	2
108	Cavitation detection during shock-wave lithotripsy. Ultrasound in Medicine and Biology, 2005, 31, 1245-1256.	0.7	84

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109	Gel phantom for use in high-intensity focused ultrasound dosimetry. <i>Ultrasound in Medicine and Biology</i> , 2005, 31, 1383-1389.	0.7	221
110	Modeling elastic wave propagation in kidney stones with application to shock wave lithotripsy. <i>Journal of the Acoustical Society of America</i> , 2005, 118, 2667-2676.	0.5	110
111	Assessing the Mechanism of Kidney Stone Comminution by a Lithotripter Shock Pulse. <i>AIP Conference Proceedings</i> , 2005, , .	0.3	0
112	Cavitation selectively reduces the negative-pressure phase of lithotripter shock pulses. <i>Acoustics Research Letters Online: ARLO</i> , 2005, 6, 280-286.	0.7	73
113	Monitoring bubble growth in supersaturated blood and tissue ex vivo and the relevance to marine mammal bioeffects. <i>Acoustics Research Letters Online: ARLO</i> , 2005, 6, 214-220.	0.7	18
114	Self-action effects for wave beams containing shock fronts. <i>Physics-Usppekhi</i> , 2004, 47, 907-922.	0.8	35
115	Nonlinear waveform distortion and shock formation in the near field of a continuous wave piston source. <i>Journal of the Acoustical Society of America</i> , 2004, 115, 1982-1987.	0.5	16
116	Reconstruction of the normal velocity distribution on the surface of an ultrasonic transducer from the acoustic pressure measured on a reference surface. <i>Acoustical Physics</i> , 2003, 49, 354-360.	0.2	61
117	Physical mechanisms of the therapeutic effect of ultrasound (a review). <i>Acoustical Physics</i> , 2003, 49, 369-388.	0.2	379
118	Cavitation Bubble Cluster Activity in the Breakage of Kidney Stones by Lithotripter Shockwaves. <i>Journal of Endourology</i> , 2003, 17, 435-446.	1.1	196
119	Effect of overpressure and pulse repetition frequency on cavitation in shock wave lithotripsy. <i>Journal of the Acoustical Society of America</i> , 2002, 112, 1183-1195.	0.5	141
120	Increase in the efficiency of the shear wave generation in gelatin due to the nonlinear absorption of a focused ultrasonic beam. <i>Acoustical Physics</i> , 2002, 48, 214-219.	0.2	12
121	Acoustic Field Produced by a Concave Radiating Surface with Allowance for the Diffraction. <i>Acoustical Physics</i> , 2002, 48, 720.	0.2	11
122	Use of overpressure to assess the role of bubbles in focused ultrasound lesion shape in vitro. <i>Ultrasound in Medicine and Biology</i> , 2001, 27, 695-708.	0.7	128
123	New piezoelectric transducers for therapeutic ultrasound. <i>Ultrasound in Medicine and Biology</i> , 2000, 26, 153-159.	0.7	93
124	Excitation of shear waves in gelatin by a focused sawtooth wave. <i>AIP Conference Proceedings</i> , 2000, , .	0.3	0
125	Experimental demonstration of enhancement of heat deposition in a focused ultrasound beam with shocks. <i>AIP Conference Proceedings</i> , 2000, , .	0.3	1
126	A dual passive cavitation detector for localized detection of lithotripsy-induced cavitation in vitro. <i>Journal of the Acoustical Society of America</i> , 2000, 107, 1745-1758.	0.5	91



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127	Nonlinear Distortion and Attenuation of Intense Acoustic Waves in Lossy Media Obeying a Frequency Power Law. <i>Acoustical Physics</i> , 2000, 46, 170.	0.2	35
128	Modeling of pulsed finite-amplitude focused sound beams in time domain. <i>Journal of the Acoustical Society of America</i> , 1998, 104, 2061-2072.	0.5	100
129	Localized detection of cavitation generated by lithotripsy shock waves. <i>Journal of the Acoustical Society of America</i> , 1997, 101, 3139-3139.	0.5	1
130	Excitation of shear waves inside of rubberlike material by focused ultrasound. <i>Journal of the Acoustical Society of America</i> , 1996, 100, 2647-2647.	0.5	3
131	Undelayed self-focusing of nondispersive waves with a broad spectrum. <i>Quantum Electronics</i> , 1993, 23, 896-898.	0.3	4