

Ronald A Roy

List of Publications by Year in descending order

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108
papers

4,952
citations

117625

34
h-index

91884

69
g-index

123
all docs

123
docs citations

123
times ranked

2629
citing authors

#	ARTICLE	IF	CITATIONS
1	Sonoluminescence and bubble dynamics for a single, stable, cavitation bubble. <i>Journal of the Acoustical Society of America</i> , 1992, 91, 3166-3183.	1.1	694
2	Applications of Acoustics and Cavitation to Noninvasive Therapy and Drug Delivery. <i>Annual Review of Fluid Mechanics</i> , 2008, 40, 395-420.	25.0	397
3	Role of acoustic cavitation in the delivery and monitoring of cancer treatment by high-intensity focused ultrasound (HIFU). <i>International Journal of Hyperthermia</i> , 2007, 23, 105-120.	2.5	359
4	Measurements of bubble-enhanced heating from focused, mhz-frequency ultrasound in a tissue-mimicking material. <i>Ultrasound in Medicine and Biology</i> , 2001, 27, 1399-1412.	1.5	317
5	Comparison of Multibubble and Single-Bubble Sonoluminescence Spectra. <i>Physical Review Letters</i> , 1995, 75, 2602-2605.	7.8	190
6	Experimental validation of a tractable numerical model for focused ultrasound heating in flow-through tissue phantoms. <i>Journal of the Acoustical Society of America</i> , 2004, 116, 2451-2458.	1.1	142
7	An acoustic backscattering technique for the detection of transient cavitation produced by microsecond pulses of ultrasound. <i>Journal of the Acoustical Society of America</i> , 1990, 87, 2451-2458.	1.1	140
8	Cavitation Mechanisms in Ultrasound-Accelerated Fibrinolysis. <i>Ultrasound in Medicine and Biology</i> , 2007, 33, 924-933.	1.5	138
9	Detection of ultrasound-modulated photons in diffuse media using the photorefractive effect. <i>Optics Letters</i> , 2004, 29, 2509.	3.3	136
10	Thresholds for cavitation produced in water by pulsed ultrasound. <i>Ultrasonics</i> , 1988, 26, 280-285.	3.9	132
11	Liver hemostasis using high-intensity focused ultrasound. <i>Ultrasound in Medicine and Biology</i> , 1997, 23, 1413-1420.	1.5	130
12	Temporal and Spatial Detection of HIFU-Induced Inertial and Hot-Vapor Cavitation with a Diagnostic Ultrasound System. <i>Ultrasound in Medicine and Biology</i> , 2009, 35, 603-615.	1.5	114
13	Bjerknes force and bubble levitation under single-bubble sonoluminescence conditions. <i>Journal of the Acoustical Society of America</i> , 1997, 102, 1522-1527.	1.1	102
14	Dynamics of gas bubbles in viscoelastic fluids. I. Linear viscoelasticity. <i>Journal of the Acoustical Society of America</i> , 2000, 107, 3167-3178.	1.1	97
15	The Correlation Between Bubble-Enhanced HIFU Heating and Cavitation Power. <i>IEEE Transactions on Biomedical Engineering</i> , 2010, 57, 175-184.	4.2	97
16	Acoustic microcavitation: Its active and passive acoustic detection. <i>Journal of the Acoustical Society of America</i> , 1991, 90, 1515-1526.	1.1	94
17	Physical mechanisms governing the hydrodynamic response of an oscillating ultrasonic file. <i>International Endodontic Journal</i> , 1994, 27, 197-207.	5.0	86
18	Acoustic cavitation produced by microsecond pulses of ultrasound: A discussion of some selected results. <i>Journal of the Acoustical Society of America</i> , 1992, 91, 1113-1119.	1.1	83

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19	The acoustic emissions from single-bubble sonoluminescence. <i>Journal of the Acoustical Society of America</i> , 1998, 103, 1377-1382.	1.1	82
20	Nucleating cavitation from laser-illuminated nano-particles. <i>Acoustics Research Letters Online: ARLO</i> , 2005, 6, 138-143.	0.7	80
21	Dynamics of gas bubbles in viscoelastic fluids. II. Nonlinear viscoelasticity. <i>Journal of the Acoustical Society of America</i> , 2000, 108, 1640-1650.	1.1	76
22	Gold nanoparticle targeted photoacoustic cavitation for potential deep tissue imaging and therapy. <i>Biomedical Optics Express</i> , 2013, 4, 66.	2.9	72
23	Bubble dynamics and size distributions during focused ultrasound insonation. <i>Journal of the Acoustical Society of America</i> , 2004, 116, 3423-3431.	1.1	64
24	Sound emissions by a laboratory bubble cloud. <i>Journal of the Acoustical Society of America</i> , 1994, 95, 3171-3182.	1.1	57
25	A precise technique for the measurement of acoustic cavitation thresholds and some preliminary results. <i>Journal of the Acoustical Society of America</i> , 1985, 78, 1799-1805.	1.1	53
26	Phase speed and attenuation in bubbly liquids inferred from impedance measurements near the individual bubble resonance frequency. <i>Journal of the Acoustical Society of America</i> , 2005, 117, 1895-1910.	1.1	52
27	Ultrasonic enhancement of photoacoustic emissions by nanoparticle-targeted cavitation. <i>Optics Letters</i> , 2010, 35, 2127.	3.3	50
28	In vitro detection of cavitation induced by a diagnostic ultrasound system. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 1992, 39, 95-101.	3.0	47
29	Phase velocity measurements in bubbly liquids using a fiber optic laser interferometer. <i>Journal of the Acoustical Society of America</i> , 1995, 97, 1621-1624.	1.1	45
30	Fusion of conventional ultrasound imaging and acousto-optic sensing by use of a standard pulsed-ultrasound scanner. <i>Optics Letters</i> , 2005, 30, 744.	3.3	41
31	Optical pulse width measurements of sonoluminescence in cavitation-bubble fields. <i>Journal of the Acoustical Society of America</i> , 1997, 101, 1994-2002.	1.1	39
32	Photo- and Sono-Dynamic Therapy: A Review of Mechanisms and Considerations for Pharmacological Agents Used in Therapy Incorporating Light and Sound. <i>Current Pharmaceutical Design</i> , 2019, 25, 401-412.	1.9	38
33	Dynamics and control of cavitation during high-intensity focused ultrasound application. <i>Acoustics Research Letters Online: ARLO</i> , 2005, 6, 182-187.	0.7	36
34	An improved water-filled impedance tube. <i>Journal of the Acoustical Society of America</i> , 2003, 113, 3245.	1.1	35
35	An audible demonstration of the speed of sound in bubbly liquids. <i>American Journal of Physics</i> , 2008, 76, 975-981.	0.7	34
36	The vibratory pattern of ultrasonic files driven piezoelectrically. <i>International Endodontic Journal</i> , 1993, 26, 120-124.	5.0	31

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37	Comparisons of sonoluminescence from single-bubbles and cavitation fields: bridging the gap. <i>Ultrasonics Sonochemistry</i> , 1997, 4, 61-64.	8.2	30
38	Real-Time Monitoring of High-Intensity Focused Ultrasound Lesion Formation Using Acousto-Optic Sensing. <i>Ultrasound in Medicine and Biology</i> , 2011, 37, 239-252.	1.5	30
39	Observations of acoustic streaming fields around an oscillating ultrasonic file. <i>Dental Traumatology</i> , 1992, 8, 189-194.	2.0	26
40	Mechanical characterization of microparticles by scattered ultrasound. <i>Journal of the Acoustical Society of America</i> , 1990, 87, 2332-2341.	1.1	25
41	Quantitative characterization of turbid media using pressure contrast acousto-optic imaging. <i>Optics Letters</i> , 2009, 34, 2850.	3.3	23
42	Imaging in diffuse media with pulsed-ultrasound-modulated light and the photorefractive effect. <i>Applied Optics</i> , 2005, 44, 4041.	2.1	22
43	Low-frequency scattering from submerged bubble clouds. <i>Journal of the Acoustical Society of America</i> , 1992, 92, 2993-2996.	1.1	21
44	An investigation of the acoustic emissions from a bubble plume. <i>Journal of the Acoustical Society of America</i> , 1991, 89, 2452-2455.	1.1	19
45	Computations of the acoustically induced phase shifts of optical paths in acoustophotonic imaging with photorefractive-based detection. <i>Applied Optics</i> , 2005, 44, 3735.	2.1	19
46	Potentiating intra-arterial sonothrombolysis for acute ischemic stroke by the addition of the ultrasound contrast agents (Optison [®] & SonoVue [®]). <i>Journal of Thrombosis and Thrombolysis</i> , 2011, 31, 71-84.	2.1	19
47	Low-frequency underwater sound generation by impacting transient cylindrical water jets. <i>Journal of the Acoustical Society of America</i> , 1993, 94, 2809-2820.	1.1	18
48	Evidence of dispersion in an artificial water-saturated sand sediment. <i>Journal of the Acoustical Society of America</i> , 2007, 121, 824-832.	1.1	17
49	Conventional and hypobaric activation of an ultrasound contrast agent. <i>Ultrasound in Medicine and Biology</i> , 1998, 24, 1143-1150.	1.5	15
50	Low-frequency acoustic emissions in fresh and salt water. <i>Journal of the Acoustical Society of America</i> , 1994, 96, 1766-1772.	1.1	14
51	Bubble production by capillary-gravity waves. <i>Journal of the Acoustical Society of America</i> , 1994, 95, 1913-1921.	1.1	14
52	The influence of droplet concentration on phase change and inertial cavitation thresholds associated with acoustic droplet vaporization. <i>Journal of the Acoustical Society of America</i> , 2020, 148, EL375-EL381.	1.1	14
53	Nonlinear coupling between the surface and volume modes of an oscillating bubble. <i>Journal of the Acoustical Society of America</i> , 1995, 98, 2764-2771.	1.1	12
54	Modeling cavitation nucleation from laser-illuminated nanoparticles subjected to acoustic stress. <i>Journal of the Acoustical Society of America</i> , 2011, 130, 3252-3263.	1.1	12

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55	The low-frequency sound speed of fluid-like gas-bearing sediments. Journal of the Acoustical Society of America, 2008, 123, EL99-EL104.	1.1	10
56	Dynamics of gas bubbles in time-variant temperature fields. Journal of Fluid Mechanics, 2010, 663, 209-232.	3.4	10
57	Thermal dose dependent optical property changes of <i>ex vivo</i> chicken breast tissues between 500 and 1100 nm. Physics in Medicine and Biology, 2014, 59, 3249-3260.	3.0	10
58	Mitigation of Damage to Solid Surfaces From the Collapse of Cavitation Bubble Clouds. Journal of Fluids Engineering, Transactions of the ASME, 2010, 132, .	1.5	9
59	Detecting cavitation in mercury exposed to a high-energy pulsed proton beam. Journal of the Acoustical Society of America, 2010, 127, 2231-2239.	1.1	9
60	Measurements of the acoustic emission from glowing bubbles. Journal of the Acoustical Society of America, 1996, 100, 2717-2717.	1.1	9
61	The underwater sounds produced by impacting snowflakes. Journal of the Acoustical Society of America, 1999, 106, 1765-1770.	1.1	8
62	Characterizing shock waves in hydrogel using high speed imaging and a fiber-optic probe hydrophone. Physics of Fluids, 2017, 29, 057101.	4.0	8
63	HIFU-induced changes in optical scattering and absorption of tissue over nine orders of thermal dose. Physics in Medicine and Biology, 2018, 63, 245001.	3.0	8
64	Cavitation Sonophysics. , 1999, , 25-38.		8
65	Amplitude degradation of time-reversed pulses in nonlinear absorbing thermoviscous fluids. Ultrasonics, 2000, 38, 885-889.	3.9	7
66	Laser-induced acoustic imaging of buried land mines: experiment and modeling. , 2001, 4394, 627.		7
67	Sensing a buried resonant object by single-channel time reversal. IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control, 2009, 56, 1429-1441.	3.0	7
68	Preliminary experimental observations of the effects of buoyancy on single-bubble sonoluminescence in microgravity and hypergravity. Journal of the Acoustical Society of America, 1996, 100, 2717-2717.	1.1	7
69	Some observations on the breakage of ultrasonic files driven piezoelectrically. Dental Traumatology, 1994, 10, 71-76.	2.0	6
70	Measuring Tissue Properties and Monitoring Therapeutic Responses Using Acousto-Optic Imaging. Annals of Biomedical Engineering, 2012, 40, 474-485.	2.5	6
71	Variations in the power output of the Piezon-Master 400 ultrasonic endodontic unit. International Endodontic Journal, 1994, 27, 26-31.	5.0	5
72	Artificial Bubble Cloud Targets for Underwater Acoustic Remote Sensing. Journal of Atmospheric and Oceanic Technology, 1995, 12, 1287-1302.	1.3	5

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73	Bubble dynamics near the onset of single-bubble sonoluminescence. <i>Physical Review E</i> , 2004, 70, 066301.	2.1	5
74	Monitoring the Development of HIFU-Induced Cavitation Activity. <i>AIP Conference Proceedings</i> , 2006, , .	0.4	5
75	Illuminating Sound: Imaging Tissue Optical Properties with Ultrasound. <i>Acoustics Today</i> , 2007, 3, 17.	1.0	5
76	Modeling-based design and assessment of an acousto-optic guided high-intensity focused ultrasound system. <i>Journal of Biomedical Optics</i> , 2017, 22, 017001.	2.6	5
77	Therapeutic Bubbles: Basic Principles of Cavitation in Therapeutic Ultrasound. <i>AIP Conference Proceedings</i> , 2006, , .	0.4	4
78	Photoacoustic thermometry for therapeutic hyperthermia. , 2009, , .		4
79	Genetic engineering biofilms in situ using ultrasound-mediated DNA delivery. <i>Microbial Biotechnology</i> , 2021, 14, 1580-1593.	4.2	4
80	The effects of buoyancy on sonoluminescing bubbles. <i>Acoustics Research Letters Online: ARLO</i> , 2000, 1, 13-18.	0.7	3
81	Monitoring HIFU Lesion Formation In Vitro Via The Driving Voltage. <i>AIP Conference Proceedings</i> , 2006, , .	0.4	3
82	SVD-Based Separation of Stable and Inertial Cavitation Signals Applied to Passive Cavitation Mapping During HIFU. <i>IEEE Transactions on Ultrasonics, Ferroelectrics, and Frequency Control</i> , 2019, 66, 857-866.	3.0	3
83	Enhanced detection of acousto-photonic scattering using a photorefractive crystal. , 2004, , .		2
84	Thermal Lesion Development in Bubble-Mediated HIFU: Modeling. <i>AIP Conference Proceedings</i> , 2006, , .	0.4	2
85	Detection of HIFU lesions in Excised Tissue Using Acousto-Optic Imaging. , 2009, , .		2
86	The use of optically activated nanoparticles to enhance controlled lesion formation from high intensity focused ultrasound exposures. , 2011, , .		2
87	Acoustic scattering from a bubbly-liquid-filled compliant cylinder. <i>Acoustics Research Letters Online: ARLO</i> , 2001, 2, 103-108.	0.7	2
88	Reply to "On the measurement and interpretation of cavitation thresholds" [J. Acoust. Soc. Am. 82, 690-691 (1987)]. <i>Journal of the Acoustical Society of America</i> , 1987, 82, 691-691.	1.1	1
89	Modeling of optoacoustic signal generation for high resolution near-surface imaging with experimental verification. , 2005, 5697, 224.		1
90	Characterization of individual submicron perfluorocarbon gas bubbles by ultrasonic backscatter. <i>Acoustics Research Letters Online: ARLO</i> , 2005, 6, 175-181.	0.7	1

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91	Born Inversion for Broadband Ultrasonic Monitoring of Cancer Treatment. AIP Conference Proceedings, 2006, , .	0.4	1
92	Sensing the optical properties of diffusive media by acousto-optic pressure contrast imaging. , 2009, , .		1
93	Nanoparticle-targeted photoacoustic cavitation for tissue imaging. , 2010, , .		1
94	A photoacoustic sensor for monitoring in situ temperature during HIFU exposures. , 2010, , .		1
95	Monitoring and guidance of high intensity focused ultrasound exposures in real time using acousto-optic imaging: feasibility and demonstration ex vivo. , 2010, , .		1
96	Experimental characterisation of light emission during shock-driven cavity collapse. Proceedings of Meetings on Acoustics, 2013, , .	0.3	1
97	FDTD Simulation of Transcranial Focusing Using Ultrasonic Phase-Conjugate Arrays. Acoustical Imaging, 1997, , 61-66.	0.2	1
98	Artificial bubble cloud targets. , 1996, , .		1
99	<title>Interaction mechanisms in acousto-photonic imaging</title>. , 2000, , .		0
100	Optoacoustic Systems for Subsurface Materials Characterization. AIP Conference Proceedings, 2004, , .	0.4	0
101	Investigation of the photorefractive crystal based detection system for acousto-optical imaging (AOI) in highly diffuse media. , 2005, , .		0
102	Combination of ultrasound and acousto-optical imaging using a pulsed-ultrasound scanner. , 2005, , .		0
103	The combination of pulsed acousto-optic imaging and B-mode diagnostic ultrasound for three-dimensional imaging in ex vivo biological tissue. , 2006, , .		0
104	Nucleating Acoustic Cavitation with Optically Heated Nanoparticles. AIP Conference Proceedings, 2006, , .	0.4	0
105	1D-3 Mechanisms Responsible for Ultrasound-accelerated Fibrinolysis in the Presence and Absence of Optison $i^{\frac{1}{2}}$. , 2006, , .		0
106	FOREWORD. Journal of the Acoustical Society of America, 2011, 130, 3183-3183.	1.1	0
107	Ambient acceleration dependence of single-bubble sonoluminescence. Journal of the Acoustical Society of America, 2011, 130, 3282-3288.	1.1	0
108	Improving the acousto-optic detection of high-intensity focused ultrasound lesions. Proceedings of Meetings on Acoustics, 2013, , .	0.3	0