Yoichiro Matsumoto

List of Publications by Year
in descending order

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141 papers	2,574 citations	218592 26 h-index	197736 49 g-index
141 all docs	141 docs citations	141 times ranked	1895 citing authors

#	Article	IF	Citations
1	Surfactant Effects on Bubble Motion and Bubbly Flows. Annual Review of Fluid Mechanics, 2011, 43, 615-636.	10.8	210
2	Use of a microbubble agent to increase the effects of high intensity focused ultrasound on liver tissue. European Radiology, 2005, 15, 1415-1420.	2.3	164
3	A full Eulerian finite difference approach for solving fluidâ€“structure coupling problems. Journal of Computational Physics, 2011, 230, 596-627.	1.9	139
4	Polyacrylamide gel containing egg white as new model for irradiation experiments using focused ultrasound. Ultrasound in Medicine and Biology, 2004, 30, 1419-1422.	0.7	133
5	Shock waves in a liquid containing small gas bubbles. Physics of Fluids, 1996, 8, 322-335.	1.6	128
6	An interface capturing method with a continuous function: The THINC method with multi-dimensional reconstruction. Journal of Computational Physics, 2012, 231, 2328-2358.	1.9	124
7	Cloud cavitation control for lithotripsy using high intensity focused ultrasound. Ultrasound in Medicine and Biology, 2006, 32, 1383-1397.	0.7	112
8	High intensity focused ultrasound lithotripsy with cavitating microbubbles. Medical and Biological Engineering and Computing, 2009, 47, 851-860.	1.6	91
9	Drag and lift forces on a bubble rising near a vertical wall in a viscous liquid. Journal of Fluid Mechanics, 2002, 461, 277-300.	1.4	90
10	Medical ultrasound with microbubbles. Experimental Thermal and Fluid Science, 2005, 29, 255-265.	1.5	83
11	Collapse of micrometer-sized cavitation bubbles near a rigid boundary. Microfluidics and Nanofluidics, 2012, 13, 957-966.	1.0	83
12	The film formation dynamics in spin coating. Physics of Fluids A, Fluid Dynamics, 1989, 1, 1949-1959.	1.6	62
13	A molecular-dynamics study of lipid bilayers: Effects of the hydrocarbon chain length on permeability. Journal of Chemical Physics, 2005, 123, 184714.	1.2	60
14	Shock waves in a uniform bubbly flow. Physics of Fluids, 1998, 10, 2661-2668.	1.6	57
15	Surfactant effect on path instability of a rising bubble. Journal of Fluid Mechanics, 2014, 738, 124-142.	1.4	55
16	Numerical Analysis of a Single Rising Bubble Using Boundary-Fitted Coordinate System.. JSME International Journal Series B, 1997, 40, 42-50.	0.3	52
17	Full Eulerian simulations of biconcave neo-Hookean particles in a Poiseuille flow. Computational Mechanics, 2010, 46, 147-157.	2.2	52
18	Behaviour of a bubble cluster in an ultrasound field. International Journal for Numerical Methods in Fluids, 2005, 47, 591-601.	0.9	50

#	Article	IF	Citations
19	Numerical study on the shear-induced lift force acting on a spherical bubble in aqueous surfactant solutions. Physics of Fluids, 2008, 20, .	1.6	45
20	Generation of micro gas bubbles of uniform diameter in an ultrasonic field. Journal of Fluid Mechanics, 2006, 548, 113.	1.4	44
21	Influence of Internal Phenomena on Gas Bubble Motion. Effects of Thermal Diffusion, Phase Change on the Gas-Liquid Interface and Mass Diffusion between Vapor and Noncondensable Gas in the Collapsing Phase.. JSME International Journal Series B, 1994, 37, 288-296.	0.3	42
22	Heating and Coagulation Volume Obtained with High-Intensity Focused Ultrasound Therapy: Comparison of Perflutren Protein-Type A Microspheres and MRX-133 in Rabbits. Radiology, 2005, 237, 132-136.	3.6	33
23	Numerical study on the shape oscillation of an encapsulated microbubble in ultrasound field. Physics of Fluids, 2011, 23, .	1.6	33
24	Multi-scale analysis of bubbly flows. Computer Methods in Applied Mechanics and Engineering, 2001, 191, 689-704.	3.4	32
25	Molecular Dynamics Simulation of Vibrational Friction Force Due to Molecular Deformation in Confined Lubricant Film. Journal of Tribology, 2003, 125, 587-591.	1.0	29
26	Surface instability of an encapsulated bubble induced by an ultrasonic pressure wave. Journal of Fluid Mechanics, 2012, 691, 315-340.	1.4	29
27	Propagation of Pressure Waves, Caused by a Thermal Shock, in Liquid Metals Containing Gas Bubbles. Journal of Fluid Science and Technology, 2008, 3, 116-128.	0.2	26
28	Development of high intensity focused ultrasound simulator for largeâ€scale computing. International Journal for Numerical Methods in Fluids, 2011, 65, 43-66.	0.9	26
29	A Review of Full Eulerian Methods for Fluid Structure Interaction Problems. Journal of Applied Mechanics, Transactions ASME, 2012, 79, .	1.1	26
30	Microbubble-induced increase in ablation of liver tumors by high-intensity focused ultrasound. Hepatology Research, 2006, 36, 308-314.	1.8	25
31	Focused Ultrasound and Lithotripsy. Advances in Experimental Medicine and Biology, 2016, 880, 113-129.	0.8	25
32	Nonlinear oscillation of a spherical gas bubble in acoustic fields. Journal of the Acoustical Society of America, 1999, 106, 3156-3166.	0.5	23
33	Influence of the Nuclei Size Distribution on the Collapsing Behavior of the Cloud Cavitation.. JSME International Journal Series B, 2000, 43, 380-385.	0.3	22
34	The Deformation Behavior of Multiple Red Blood Cells in a Capillary Vessel. Journal of Biomechanical Engineering, 2009, 131, 074504.	0.6	21
35	Prediction of Cavitation Intensity and Erosion Area in Centrifugal Pump by Using Cavitating Flow Simulation with Bubble Flow Model. Journal of Fluid Science and Technology, 2010, 5, 305-316.	0.2	20
36	A Computational Blood Flow Analysis in a Capillary Vessel including Multiple Red Blood Cells and Platelets. Journal of Biomechanical Science and Engineering, 2012, 7, 72-83.	0.1	20

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37	Influence of Internal Phenomena on Gas Bubble Motion.Effects of Transport Phenomena and Mist Formation inside Bubble in the Expanding Phase.. JSME International Journal Series B, 1994, 37, 736-745.	0.3	19
38	A meso-scale analysis of lipid bilayers with the dissipative particle dynamics method: Thermally fluctuating interfaces. International Journal for Numerical Methods in Fluids, 2007, 54, 831-840.	0.9	19
39	The Deformation of a Vesicle in a Linear Shear Flow. Journal of Applied Mechanics, Transactions ASME, 2009, 76, .	1.1	19
40	Robust kidney stone tracking for a non-invasive ultrasound theragnostic system-Servoing performance and safety enhancement-. , 2011, , .		19
41	Full-Eulerian Finite-Difference Simulation of Fluid Flow in Hyperelastic Wavy Channel. Journal of Fluid Science and Technology, 2010, 5, 475-490.	0.2	16
42	A control framework for the non-invasive ultrasound theragnostic system. , 2009, , .		14
43	A Novel High Intensity Focused Ultrasound Robotic System for Breast Cancer Treatment. Lecture Notes in Computer Science, 2013, 16, 388-395.	1.0	14
44	Numerical simulation of the tissue ablation in highâ€intensity focused ultrasound therapy with array transducer. International Journal for Numerical Methods in Fluids, 2010, 64, 1395-1411.	0.9	11
45	Bubble and bubble cloud dynamics. AIP Conference Proceedings, 2000, , .	0.3	10
46	Focus Control in HIFU Therapy Assisted by Time-Reversal Simulation with an Iterative Procedure for Hot Spot Elimination. Journal of Biomechanical Science and Engineering, 2012, 7, 43-56.	0.1	10
47	A novel robust template matching method to track and follow body targets for NIUTS. , 2014, , .		10
48	Feed-Forward Controller for the Integrated Non-Invasive Ultrasound Diagnosis and Treatment. Journal of Robotics and Mechatronics, 2008, 20, 89-97.	0.5	10
49	A Framework of the Non-invasive Ultrasound Theragnostic System. Lecture Notes in Computer Science, 2008, , 231-240.	1.0	9
50	Effects of breast structure on high-intensity focused ultrasound focal error. Journal of Therapeutic Ultrasound, 2018, 6, 4.	2.2	7
51	Three-Dimensional Numerical Analysis of Bubbly Flow around a Circular Cylinder.. JSME International Journal Series B, 2001, 44, 319-327.	0.3	6
52	Out-of-plane Scattering Distribution of Nitrogen Molecular Beam on Graphite (0001) Surface. AIP Conference Proceedings, 2005, , .	0.3	6
53	Ultrasound-based visual servoing system for lithotripsy. , 2007, , .		6
54	NUMERICAL SIMULATIONS OF MULTIPHASE FLOWS. , 1998, , 994-1010.		6

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55	Gasâ€“Surface Energy Exchange in Collisions of Helium Atoms with Aligned Single-Walled Carbon Nanotube Arrays. Journal of Physical Chemistry C, 2013, 117, 14254-14260.	1.5	5
56	Introduction for amazing (cavitation) bubbles. Interface Focus, 2015, 5, 20150059.	1.5	5
57	Construction Methodology for NIUTS â€“ Bed Servoing System for Body Targets â€“. Journal of Robotics and Mechatronics, 2013, 25, 1088-1096.	0.5	5
58	Integration of diagnostics and therapy by ultrasound and robot technology. , 2010, , .		4
59	Measurements of microbubble generation process in microchannel using ultra high-speed micro-PTV system. Microfluidics and Nanofluidics, 2013, 14, 1011-1020.	1.0	4
60	Toward the Multi-scale Simulation for a Human Body Using the Next-generation Supercomputer. Procedia IUTAM, 2014, 10, 193-200.	1.2	4
61	Incident energy dependence of the scattering dynamics of water molecules on silicon and graphite surfaces: the effect on tangential momentum accommodation. Microfluidics and Nanofluidics, 2017, 21, 1.	1.0	4
62	Viscidâ€“inviscid interactions of pairwise bubbles in a turbulent channel flow and their implications for bubble clustering. Journal of Fluid Mechanics, 2021, 919, .	1.4	4
63	Growth and Collapse of Cavitation Bubbles : Change of Nuclei Population due to Collapse of Bubbles. 880-02 Nihon Kikai Gakkai RonbunshÅ« Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 1983, 49, 2265-2272.	0.2	3
64	Renal Stone Comminution Utilizing Cloud Cavitation Erosion (1st Report, The Control of Cloud) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 38 Engineers Series B B-hen, 2004, 70, 904-911.	0.2	3
65	Propagation of Pressure Waves, Caused by a Thermal Shock, in Liquid Metals Containing Gas Bubbles. 880-02 Nihon Kikai Gakkai RonbunshÅ« Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2006, 72, 885-892.	0.2	3
66	Effective Heat therapy Controlling Heat Deposition of Microbubbles in the Ultrasound Field. AIP Conference Proceedings, 2007, , .	0.3	3
67	Surfactant effects on single bubble motion and bubbly flow structure. , 2010, , .		3
68	A novel redundant motion control mechanism in accordance with medical diagnostic and therapeutic task functions for a NIUTS. , 2014, , .		3
69	Numerical Study of the Effective Combination of Microbubbles and Ultrasound in HIFU Therapy. , 2011, , .		3
70	The Behavior of a Lipid Bilayer Vesicle in a Simple Shear Flow (1st Report, Validation of the) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 147 Td Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2008, 74, 530-535.	0.2	2
71	A Single Bubble 3D Motion in Dilute Surfactant Solution : 1st Report, Relation between Surfactant Concentration and 3D Motion(Fluids Engineering). 880-02 Nihon Kikai Gakkai RonbunshÅ« Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2010, 76, 1785-1792.	0.2	2
72	An Eulerian Approach to Fluid-Structure Coupling Problems Suitable for Voxel-Based Geometry. , 2010, , .		2

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73	The Influence of the Insonation Conditions of Pulsed Ultrasound on Microbubble Volumetric Oscillations (On the Mechanical Index and the Oscillation Characteristics). 880-02 Nihon Kikai Gakkai RonbunshÅ« Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2011, 77, 264-273.	0.2	2
74	A Mechanical System Identification Method for Non-Invasive Ultrasound Theragnostic System. Procedia CIRP, 2013, 5, 315-320.	1.0	2
75	Construction of kidney phantom model with acoustic shadow by rib bones and respiratory organ motion. AIP Conference Proceedings, 2017, , .	0.3	2
76	Thermal Decomposition Process of Ultrathin Oxide Layers on Si(100). Hyomen Kagaku, 2008, 29, 537-542.	0.0	2
77	Technologizing and DigitalizingMedical Professional Skills for a Non-Invasive Ultrasound Theragnostic System â€“ Technologizing and Digitalizing Kidney Stone Extraction Skills â€“. Journal of Robotics and Mechatronics, 2012, 24, 379-388.	0.5	2
78	System Identification Method for Non-Invasive Ultrasound Theragnostic System Incorporating Mechanical Oscillation Part. International Journal of Automation Technology, 2014, 8, 110-119.	0.5	2
79	Multi-Scale Analysis for Rarefied Gas Flows. AIP Conference Proceedings, 2003, , .	0.3	1
80	Interaction between Shock Wave and Boundary Layer in Nonequilibrium Hypersonic Rarefied Flow. JSME International Journal Series B, 2006, 49, 771-779.	0.3	1
81	Nonlinear Behavior of the Collapse of a Spherical Bubble Cloud. 880-02 Nihon Kikai Gakkai RonbunshÅ« Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2006, 72, 620-627.	0.2	1
82	Relationship between Thermal Effect and Bubble Behavior in HIFU. AIP Conference Proceedings, 2006, , .	0.3	1
83	Temperature Distribution In The Medium Containing Contrast Agent Microbubbles In HIFU Field. AIP Conference Proceedings, 2006, , .	0.3	1
84	A Molecular Dynamics Study on the Growth of Bubble Nuclei with a Noncondensable Gas (2nd Report,) Tj ETQq0 0 0 rgBT /Overlock 10 T Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2007, 73, 2153-2159.	0.2	1
85	Scattering of Monatomic Gas Molecules on Vertically Aligned Single-Walled Carbon Nanotubes. , 2008, , .		1
86	Development of Ultra Small Shock Tube for High Energy Molecular Beam Source. , 2008, , .		1
87	The Behavior of a Lipid Bilayer Vesicle in a Simple Shear Flow (2nd Report, An Experimental Analysis of) Tj ETQq1 1 0.784314 rgBT /Over Japan Society of Mechanical Engineers Series B B-hen, 2008, 74, 856-861.	0.2	1
88	A Molecular Dynamics Study on the Local Structure of Liquid-Vapor Interface of Water and L-J Fluid. Journal of Thermal Science and Technology, 2008, 3, 234-240.	0.6	1
89	Temperature distribution in heating experiment using HIFU and microbubbles. , 2010, , .		1
90	Large-scale analysis of focused ultrasound in heterogeneous media. , 2010, , .		1

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91	A numerical analysis of the effect of bubble-induced liquid flow on mass transfer in bubble plumes. , 2010, , .		1
92	Medical Application of Fluid Dynamics (Diagnostic and Therapeutic Integrated System by Ultrasound). 880-02 Nihon Kikai Gakkai RonbunshÅ« Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2011, 77, 1868-1878.	0.2	1
93	Numerical study on microbubble-enhanced heating for various parameters in EUS-FUS. , 2012, , .		1
94	Ultrasound-mediated gene transfection: A comparison between cells irradiated in suspension and attachment status. AIP Conference Proceedings, 2012, , .	0.3	1
95	A Priori Modeling of the Acoustic Boundary Layer Effect on the Heat Source in Ultrasound. Journal of Biomechanical Science and Engineering, 2012, 7, 84-101.	0.1	1
96	Improvement of Bubble Model in High Void Fraction for Cavitating Flow Simulations. Journal of Computational Science and Technology, 2012, 6, 113-128.	0.4	1
97	Multiphase Flows in Bio-Medical Field. Japanese Journal of Multiphase Flow, 2012, 26, 386-391.	0.1	1
98	Two-dimensional manipulation of microbubbles using primary Bjerknes force. , 2013, , .		1
99	Analysis of scientific research structure in Singapore using bibliometrics and network analysis for understanding their characteristics of R&D: A case study of biomedicai field. , 2014, , .		1
100	An extremely robust US based focal lesion servo system incorporating a servo recovery algorithm for a NIUTS. , 2015, , .		1
101	Hyperthermal molecular beam source using a non-diaphragm-type small shock tube. Review of Scientific Instruments, 2016, 87, 105117.	0.6	1
102	Molecular Scale Flow Structure Near a Solid Surface. JSME International Journal Series B, 2001, 44, 552-560.	0.3	0
103	Vibrational Relaxation of Diatomic Molecules in Rarefied Gas Flows. AIP Conference Proceedings, 2003, , .	0.3	0
104	Dynamic Molecular Collision (DMC) Model for General Diatomic Rarefied Gas Flows. AIP Conference Proceedings, 2003, , .	0.3	0
105	Inverse Phenomenon of Nucleation Rate in Binary Liquid-Gas Mixtures (Molecular Dynamics Study of) Tj ETQq1 1 0.784314 rgBT /Ove Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2005, 71, 1893-1900.	0.2	0
106	Erythrocytes and microbubble contrast agents, improve the therapeutic efficiency of high intensity focused ultrasound. AIP Conference Proceedings, 2005, , .	0.3	0
107	Numerical Study Of The Heat Transfer From An Oscillating Bubble. AIP Conference Proceedings, 2005, , .	0.3	0
108	DSMC Simulation of Non-uniform Flow Effects behind a Conical Nozzle. AIP Conference Proceedings, 2005, , .	0.3	0

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109	A Molecular Dynamics Study on the Growth of Bubble Nuclei with a Noncondensable Gas (1st Report,) Tj ETQq1 1 0.784314 rgBT /Overl the Japan Society of Mechanical Engineers Series B B-hen, 2007, 73, 2145-2152.	0.2	0
110	Microbubble-Enhanced Ultrasound Gene Transfer into Fibroblast Cells. AIP Conference Proceedings, 2007, , .	0.3	0
111	Development of a Non-Invasive Ultrasound Therapy System. , 2007, , .		0
112	Nonlinear Phenomena of Acoustic Cloud Cavitation. AIP Conference Proceedings, 2008, , .	0.3	0
113	Nonequilibrium Rotational Temperature Measurements over Flat Plates in Hypersonic Rarefied Gas Flow. , 2008, , .		0
114	Cavitation detection with subharmonic emissions by low intensity sustaining ultrasound. , 2008, , .		0
115	Effects of Surfactant on the Lift Force Acting on a Bubble in a Shear Flow. 880-02 Nihon Kikai Gakkai RonbunshÅ« Transactions of the Japan Society of Mechanical Engineers Series B B-hen, 2008, 74, 1679-1685.	0.2	0
116	Enhancement of ultrasonic heating with microbubbles and their localization in target tissue. , 2009, , .		0
117	Ultrasound Gene Transfer into Fibroblast Cells using Microbubbles. , 2009, , .		0
118	Development of HIFU treatment in which the heating location is controlled using microbubbles. , 2009, , .		0
119	Scattering Process of Transmitted Gas Molecules Through Vertically Aligned Single-Walled Carbon Nanotube Arrays(<Special Issue>The 1st Symposium on Micro-Nano Engineering). Nippon Kikai Gakkai Ronbunshu, C Hen/Transactions of the Japan Society of Mechanical Engineers, Part C, 2010, 76, 1933-1935.	0.2	0
120	Micro-bubble Enhanced Sonoporation. , 2010, , .		0
121	Development of computer controlled HIFU focal model scanning system. , 2010, , .		0
122	Numerical Simulation of High Intensity Focused Ultrasound Therapy with Volume Model of Human Body. , 2010, , .		0
123	Ultrasound -Assisted Gene Transfer to Adipose Tissue-Derived Stemâˆ•Progenitor Cells (ASCs). , 2011, , .		0
124	Temperature Change from Oscillating Bubbles within a Capillary Network Induced by Focused Ultrasound. AIP Conference Proceedings, 2011, , .	0.3	0
125	A TR-induced algorithm for hot spots elimination through CT-scan HIFU simulations. AIP Conference Proceedings, 2011, , .	0.3	0
126	Multiscale Analysis on Cavitating Flow. , 2011, , .		0

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127	Optimization of HIFU treatment on the basis of temperature distributions measured by a thin-film thermocouple array. , 2012, , .		0
128	Construction Methodology for the Non-Invasive Ultrasound Theragnostic System (4th report) -Bed-Type Servoing System for Body Targets. Procedia CIRP, 2013, 5, 294-299.	1.0	0
129	Fine Structure of Boundary layer on Circular Cylinder Surface in Bubbly Flow. The Proceedings of the Fluids Engineering Conference, 2000, 2000, 135.	0.0	0
130	521 Drag reducing Mechanism in Bubbly Flow around a Circular Cylinder. The Proceedings of Conference of Kanto Branch, 2001, 2001.7, 201-202.	0.0	0
131	Vibrational friction force by confined polymer film. The Proceedings of the JSME Annual Meeting, 2002, 2002.1, 213-214.	0.0	0
132	Reduced-Order Modeling for Thermal Damping Effect on Radial Motion of a Bubble. The Proceedings of the Fluids Engineering Conference, 2004, 2004, 292.	0.0	0
133	2342 DEVELOPMENT OF ULTRA SMALL SHOCK TUBE FOR HIGH ENERGY MOLECULAR BEAM SOURCE. The Proceedings of the JSME Annual Meeting, 2006, 2006.2, 97-98.	0.0	0
134	OS1-2-2 Analysis of gas transport in polymer electrolyte fuel cells using structure constructed from X-ray nano CT. The Proceedings of the Symposium on Micro-Nano Science and Technology, 2012, 2012.4, 161-162.	0.0	0
135	J053012 Measurements of Time-of-Flight Distributions of Shock-heated Molecular Beams. The Proceedings of Mechanical Engineering Congress Japan, 2012, 2012, _J053012-1-_J053012-5.	0.0	0
136	J053013 Investigation of water-graphite interaction using molecular beam technique. The Proceedings of Mechanical Engineering Congress Japan, 2012, 2012, _J053013-1-_J053013-5.	0.0	0
137	BC-JP-1 Development of Multiscale Thrombus Simulator. The Proceedings of Mechanical Engineering Congress Japan, 2012, 2012, _BC-JP-1-1-_BC-JP-1-2.	0.0	0
138	J053016 New formulation of dissipative particle dynamics : Non-Markovian models. The Proceedings of Mechanical Engineering Congress Japan, 2013, 2013, _J053016-1-_J053016-5.	0.0	0
139	A Full-Eulerian Approach for the Fluidâ€“Structure Interaction Problem. Lecture Notes in Computational Vision and Biomechanics, 2014, , 47-74.	0.5	0
140	B212 Molecular dynamics simulation of wettability and pore diameter dependence of saturation pressure of water in nanocylinders. The Proceedings of the Thermal Engineering Conference, 2014, 2014, _B212-1_-_B212-2_.	0.0	0
141	J0550203 Molecular Dynamics Simulation of Pore Diameter Dependence of Saturation Pressure of Water in Nanocylinder. The Proceedings of Mechanical Engineering Congress Japan, 2014, 2014, _J0550203-_J0550203-.	0.0	0