

# Maxim A Solovchuk

## List of Publications by Year in descending order

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35  
papers

506  
citations

840776

11  
h-index

677142

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all docs

37  
docs citations

37  
times ranked

317  
citing authors

#	ARTICLE	IF	CITATIONS
1	On an acoustics-thermal-fluid coupling model for the prediction of temperature elevation in liver tumor. International Journal of Heat and Mass Transfer, 2011, 54, 4117-4126.	4.8	53
2	Simulation of nonlinear Westervelt equation for the investigation of acoustic streaming and nonlinear propagation effects. Journal of the Acoustical Society of America, 2013, 134, 3931-3942.	1.1	53
3	On a computational study for investigating acoustic streaming and heating during focused ultrasound ablation of liver tumor. Applied Thermal Engineering, 2013, 56, 62-76.	6.0	48
4	Simulation study on acoustic streaming and convective cooling in blood vessels during a high-intensity focused ultrasound thermal ablation. International Journal of Heat and Mass Transfer, 2012, 55, 1261-1270.	4.8	43
5	Bubble dynamics in viscoelastic soft tissue in high-intensity focal ultrasound thermal therapy. Ultrasonics Sonochemistry, 2018, 40, 900-911.	8.2	39
6	Temperature elevation by HIFU in <i>ex vivo</i> porcine muscle: MRI measurement and simulation study. Medical Physics, 2014, 41, 052903.	3.0	37
7	Dynamics of bubble-bubble interactions experiencing viscoelastic drag. Physical Review E, 2019, 99, 023109.	2.1	25
8	Multiphysics Modeling of Liver Tumor Ablation by High Intensity Focused Ultrasound. Communications in Computational Physics, 2015, 18, 1050-1071.	1.7	18
9	Computational study of acoustic streaming and heating during acoustic hemostasis. Applied Thermal Engineering, 2017, 124, 1112-1122.	6.0	18
10	Prediction of shock structure using the bimodal distribution function. Physical Review E, 2010, 81, 056314.	2.1	13
11	Simulation of cavitation enhanced temperature elevation in a soft tissue during high-intensity focused ultrasound thermal therapy. Ultrasonics Sonochemistry, 2019, 53, 11-24.	8.2	12
12	Investigating ion transport inside the pentameric ion channel encoded in COVID-19 E protein. Physical Review E, 2020, 102, 052408.	2.1	12
13	Piecewise continuous distribution function method in the theory of wave disturbances of inhomogeneous gas. Physics Letters, Section A: General, Atomic and Solid State Physics, 2006, 348, 326-334.	2.1	10
14	Prediction of strong-shock structure using the bimodal distribution function. Physical Review E, 2011, 83, 026301.	2.1	10
15	Stability and dynamics of a chemotaxis system with deformed free-surface in a shallow chamber. Physics of Fluids, 2018, 30, .	4.0	10
16	Image-based computational model for focused ultrasound ablation of liver tumor. Journal of Computational Surgery, 2014, 1, .	0.6	9
17	A conservative numerical scheme for modeling nonlinear acoustic propagation in thermoviscous homogeneous media. Journal of Computational Physics, 2018, 363, 200-230.	3.8	9
18	The free surface effect on a chemotaxis-diffusion-convection coupling system. Computer Methods in Applied Mechanics and Engineering, 2019, 356, 387-406.	6.6	9

#	ARTICLE	IF	CITATIONS
19	High-performance multi-GPU solver for describing nonlinear acoustic waves in homogeneous thermoviscous media. <i>Computers and Fluids</i> , 2018, 173, 195-205.	2.5	8
20	Arbitrary Lagrangian Eulerian-Type Finite Element Methods Formulation for PDEs on Time-Dependent Domains with Vanishing Discrete Space Conservation Law. <i>SIAM Journal of Scientific Computing</i> , 2019, 41, A1548-A1573.	2.8	8
21	The effects of acoustic streaming on the temperature distribution during focused ultrasound therapy. <i>AIP Conference Proceedings</i> , 2012, , .	0.4	7
22	Investigation of the Efficiency of Mask Wearing, Contact Tracing, and Case Isolation during the COVID-19 Outbreak. <i>Journal of Clinical Medicine</i> , 2021, 10, 2761.	2.4	7
23	GPU-accelerated study of the inertial cavitation threshold in viscoelastic soft tissue using a dual-frequency driving signal. <i>Ultrasonics Sonochemistry</i> , 2022, 88, 106056.	8.2	7
24	Effects of acoustic nonlinearity and blood flow cooling during HIFU treatment. <i>AIP Conference Proceedings</i> , 2012, , .	0.4	6
25	Energy stable arbitrary Lagrangian Eulerian finite element scheme for simulating flow dynamics of droplets on non-homogeneous surfaces. <i>Applied Mathematical Modelling</i> , 2022, 108, 66-91.	4.2	6
26	Experimental and Numerical Study on the Temperature Elevation in Tissue during Moxibustion Therapy. <i>Evidence-based Complementary and Alternative Medicine</i> , 2020, 2020, 1-10.	1.2	5
27	Bacterial chemotaxis in thin fluid layers with free surface. <i>Physics of Fluids</i> , 2020, 32, 061902.	4.0	5
28	Solution of Ion Channel Flow Using Immersed Boundary Lattice Boltzmann Methods. <i>Journal of Computational Biology</i> , 2020, 27, 1144-1156.	1.6	4
29	Elimination of spurious velocities generated by curvature dependent surface force in finite element flow simulation with mesh-fitted interface. <i>Computer Methods in Applied Mechanics and Engineering</i> , 2020, 372, 113356.	6.6	4
30	Weakly nonlinear stability analysis of salt-finger convection in a longitudinally infinite cavity. <i>Physics of Fluids</i> , 2022, 34, .	4.0	4
31	Lattice Boltzmann method to simulate three-dimensional ion channel flow using fourth order Poisson-Nernst-Planck-Bikerman model. <i>Physics of Fluids</i> , 2021, 33, 081910.	4.0	3
32	A detailed study of ion transport through the SARS-CoV-2 E protein ion channel. <i>Nanoscale</i> , 2022, 14, 8291-8305.	5.6	3
33	HIFU Treatment of Liver Cancer Reciprocal Effect of Blood Flow and US Studied from a Patient-Specific Configuration. <i>Lecture Notes in Computer Science</i> , 2014, , 1-11.	1.3	1
34	Investigation Into the Acoustic Streaming and Convective Cooling Phenomena During a High-Intensity Focused Ultrasound Thermal Ablation. , 2011, , .		0
35	Computational model for investigating acoustic hemostasis. , 2014, , .		0