Alexander Panfilov

List of Publications by Year
in descending order

189 papers	10,623 citations	38660 50 h-index	35952 97 g-index
209 all docs	209 docs citations	209 times ranked	4234 citing authors

#	Article	IF	Citations
1	Doppler shift during overdrive pacing of spiral waves. Prediction of the annihilation site. Chaos, Solitons and Fractals, 2022, 155, 111782.	2.5	3
2	Control of the chirality of spiral waves and recreation of spatial excitation patterns through optogenetics. Physical Review E, 2022, 105, 014214.	0.8	7
3	Control of spiral waves in optogenetically modified cardiac tissue by periodic optical stimulation. Physical Review E, 2022, 105, 044210.	0.8	2
4	PO-660-01 â€œTRAPPED REENTRYâ€: A DORMANT SOURCE OF ARRHYTHMIA. Heart Rhythm, 2022, 19, S281.	0.3	0
5	Numerical methods for the detection of phase defect structures in excitable media. PLoS ONE, 2022, 17, e0271351.	1.1	2
6	Mathematical modelling of the mechano-electric coupling in the human cardiomyocyte electrically connected with fibroblasts. Progress in Biophysics and Molecular Biology, 2021, 159, 46-57.	1.4	14
7	Cx43 hemichannel microdomain signaling at the intercalated disc enhances cardiac excitability. Journal of Clinical Investigation, 2021, 131, .	3.9	54
8	High-frequency pacing of scroll waves in a three-dimensional slab model of cardiac tissue. Physical Review E, 2021, 103, 042420.	0.8	5
9	Directed graph mapping exceeds phase mapping in discriminating true and false rotors detected with a basket catheter in a complex in-silico excitation pattern. Computers in Biology and Medicine, 2021, 133, 104381.	3.9	5
10	Electrophysiological Characterization of Human Atria: The Understated Role of Temperature. Frontiers in Physiology, 2021, 12, 639149.	1.3	4
11	Evaluation of Directed Graph-Mapping in Complex Atrial Tachycardias. JACC: Clinical Electrophysiology, 2021, 7, 936-949.	1.3	10
12	Minimal Functional Clusters Predict the Probability of Reentry in Cardiac Fibrotic Tissue. Physical Review Letters, 2021, 127, 098101.	2.9	2
13	Scroll wave with negative filament tension in a model of the left ventricle of the human heart and its overdrive pacing. Physical Review E, 2021, 104, 034408.	0.8	4
14	Realization of fully biological restoration of cardiac rhythm: a computational translational exploration. European Heart Journal, 2021, 42, .	1.0	0
15	Anatomical Model of Rat Ventricles to Study Cardiac Arrhythmias under Infarction Injury. Mathematics, 2021, 9, 2604.	1.1	2
16	Multiparametric analysis of geometric features of fibrotic textures leading to cardiac arrhythmias. Scientific Reports, 2021, 11, 21111.	1.6	2
17	Rotational Activity around an Obstacle in 2D Cardiac Tissue in Presence of Cellular Heterogeneity. Mathematics, 2021, 9, 3090.	1.1	2
18	Period of Arrhythmia Anchored around an Infarction Scar in an Anatomical Model of the Human Ventricles. Mathematics, 2021, 9, 2911.	1.1	2

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19	Finding type and location of the source of cardiac arrhythmias from the averaged flow velocity field using the determinant-trace method. Physical Review E, 2021, 104, 064401.	0.8	3
20	Gap19, a Cx43 Hemichannel Inhibitor, Acts as a Gating Modifier That Decreases Main State Opening While Increasing Substate Gating. International Journal of Molecular Sciences, 2020, 21, 7340.	1.8	8
21	Myocardial Fibrosis in a 3D Model: Effect of Texture on Wave Propagation. Mathematics, 2020, 8, 1352.	1.1	7
22	Creation and application of virtual patient cohorts of heart models. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190558.	1.6	50
23	Overdrive pacing of spiral waves in a model of human ventricular tissue. Scientific Reports, 2020, 10, 20632.	1.6	9
24	An audit of uncertainty in multi-scale cardiac electrophysiology models. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190335.	1.6	25
25	Considering discrepancy when calibrating a mechanistic electrophysiology model. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2020, 378, 20190349.	1.6	46
26	Mechano-calcium and mechano-electric feedbacks in the human cardiomyocyte analyzed in a mathematical model. Journal of Physiological Sciences, 2020, 70, 12.	0.9	22
27	Anisotropic conduction in the myocardium due to fibrosis: the effect of texture on wave propagation. Scientific Reports, 2020, 10, 764.	1.6	18
28	In silico optical control of pinned electrical vortices in an excitable biological medium. New Journal of Physics, 2020, 22, 023034.	1.2	4
29	Induced drift of scroll waves in the Alievâ€"Panfilov model and in an axisymmetric heart left ventricle. Russian Journal of Numerical Analysis and Mathematical Modelling, 2020, 35, 273-283.	0.2	6
30	Drift of Scroll Waves in a Mathematical Model of a Heterogeneous Human Heart Left Ventricle. Mathematics, 2020, 8, 776.	1.1	4
31	Self-restoration of cardiac excitation rhythm by anti-arrhythmic ion channel gating. ELife, 2020, 9, .	2.8	12
32	A quantitative theory for phase-locking of meandering spiral waves in a rotating external field. New Journal of Physics, 2019, 21, 043012.	1.2	11
33	Self-organization of conducting pathways explains electrical wave propagation in cardiac tissues with high fraction of non-conducting cells. PLoS Computational Biology, 2019, 15, e1006597.	1.5	20
34	(INVITED) Reactionâ€"diffusion waves in cardiovascular diseases. Physica D: Nonlinear Phenomena, 2019, 399, 1-34.	1.3	13
35	Drift of scroll waves in a generic axisymmetric model of the cardiac left ventricle. Chaos, Solitons and Fractals, 2019, 120, 222-233.	2.5	1
36	Spiral Waves in the Heart. The Frontiers Collection, 2019, , 209-215.	0.1	5

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37	Simulation of spiral wave superseding in the Luoâ€“Rudy anisotropic model of cardiac tissue with circular-shaped fibres. Journal of Computational Science, 2019, 32, 1-11.	1.5	9
38	Response function framework for the dynamics of meandering or large-core spiral waves and modulated traveling waves. Physical Review E, 2019, 99, 022217.	0.8	4
39	Optimization of a Cardiac Electromechanics Simulation Program for Parallel Implementation. , 2019, , .		0
40	Directed Networks as a Novel Way to Describe and Analyze Cardiac Excitation: Directed Graph Mapping. Frontiers in Physiology, 2019, 10, 1138.	1.3	33
41	R-From-T as a Common Mechanism of Arrhythmia Initiation in Long QT Syndromes. Circulation: Arrhythmia and Electrophysiology, 2019, 12, e007571.	2.1	36
42	Arrhythmogenicity of fibro-fatty infiltrations. Scientific Reports, 2018, 8, 2050.	1.6	35
43	Response by Feola et al to Letter Regarding Article, â€œLocalized Optogenetic Targeting of Rotors in Atrial Cardiomyocyte Monolayersâ€. Circulation: Arrhythmia and Electrophysiology, 2018, 11, e006130.	2.1	0
44	The impact of cardiac tissue anisotropy on spiral wave superseding: A simulation study using ionic cell models. Procedia Computer Science, 2018, 136, 359-369.	1.2	3
45	GEMS: A Fully Integrated PETSc-Based Solver for Coupled Cardiac Electromechanics and Bidomain Simulations. Frontiers in Physiology, 2018, 9, 1431.	1.3	2
46	Dynamical anchoring of distant arrhythmia sources by fibrotic regions via restructuring of the activation pattern. PLoS Computational Biology, 2018, 14, e1006637.	1.5	22
47	Myocyte Remodeling Due to Fibro-Fatty Infiltrations Influences Arrhythmogenicity. Frontiers in Physiology, 2018, 9, 1381.	1.3	12
48	Paradoxical Onset of Arrhythmic Waves from Depolarized Areas in Cardiac Tissue Due to Curvature-Dependent Instability. Physical Review X, 2018, 8, 021077.	2.8	9
49	Theory of Rotors and Arrhythmias. , 2018, , 325-334.		1
50	Optogenetics enables real-time spatiotemporal control over spiral wave dynamics in an excitable cardiac system. ELife, 2018, 7, .	2.8	49
51	Effect of myocyte-fibroblast coupling on the onset of pathological dynamics in a model of ventricular tissue. Scientific Reports, 2017, 7, 40985.	1.6	38
52	Spiral-wave dynamics in a mathematical model of human ventricular tissue with myocytes and Purkinje fibers. Physical Review E, 2017, 95, 022405.	0.8	22
53	Measurement and structure of spiral wave response functions. Chaos, 2017, 27, 093912.	1.0	11
54	Virtual cardiac monolayers for electrical wave propagation. Scientific Reports, 2017, 7, 7887.	1.6	15

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55	Mechanism for Mechanical Wave Break in the Heart Muscle. Physical Review Letters, 2017, 119, 108101.	2.9	7
56	Localized Optogenetic Targeting of Rotors in Atrial Cardiomyocyte Monolayers. Circulation: Arrhythmia and Electrophysiology, 2017, 10, .	2.1	50
57	Effect of the form and anisotropy of the left ventricle on the drift of spiral waves. Biophysics (Russian Federation), 2017, 62, 309-311.	0.2	5
58	Modelling of low-voltage cardioversion using 2D isotropic models of the cardiac tissue. , 2017, , .		4
59	Filament Tension and Phase Locking of Meandering Scroll Waves. Physical Review Letters, 2017, 119, 258101.	2.9	5
60	Short-Lasting Episodes of Torsade de Pointes in the Chronic Atrioventricular Block Dog Model Have a Focal Mechanism, While Longer-Lasting Episodes AreÂMaintained by Re-Entry. JACC: Clinical Electrophysiology, 2017, 3, 1565-1576.	1.3	30
61	Simulation of Overdrive Pacing in 2D Phenomenological Models of Anisotropic Myocardium. Procedia Computer Science, 2017, 119, 245-254.	1.2	5
62	Spatial Patterns of Excitation at Tissue and Whole Organ Level Due to Early Afterdepolarizations. Frontiers in Physiology, 2017, 8, 404.	1.3	13
63	Effects of early afterdepolarizations on excitation patterns in an accurate model of the human ventricles. PLoS ONE, 2017, 12, e0188867.	1.1	17
64	Perpetuation of torsade de pointes in heterogeneous hearts: competing foci or reâ€entry?. Journal of Physiology, 2016, 594, 6865-6878.	1.3	50
65	Islands of spatially discordant APD alternans underlie arrhythmogenesis by promoting electrotonic dyssynchrony in models of fibrotic rat ventricular myocardium. Scientific Reports, 2016, 6, 24334.	1.6	22
66	Drift of scroll waves of electrical excitation in an isotropic model of the cardiac left ventricle. Russian Journal of Numerical Analysis and Mathematical Modelling, 2016, 31, .	0.2	2
67	Scroll-wave dynamics in the presence of ionic and conduction inhomogeneities in an anatomically realistic mathematical model for the pig heart. JETP Letters, 2016, 104, 796-799.	0.4	20
68	Global alternans instability and its effect on non-linear wave propagation: dynamical Wenckebach block and self terminating spiral waves. Scientific Reports, 2016, 6, 29397.	1.6	4
69	Scroll wave dynamics in a model of the heterogeneous heart. JETP Letters, 2016, 104, 130-134.	0.4	25
70	Effects of Heterogeneous Diffuse Fibrosis on Arrhythmia Dynamics and Mechanism. Scientific Reports, 2016, 6, 20835.	1.6	115
71	Mechano-electric heterogeneity of the myocardium as a paradigm of its function. Progress in Biophysics and Molecular Biology, 2016, 120, 249-254.	1.4	19
72	A Mathematical Model of Neonatal Rat Atrial Monolayers with Constitutively Active Acetylcholine-Mediated K+ Current. PLoS Computational Biology, 2016, 12, e1004946.	1.5	15

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73	Constitutively Active Acetylcholine-Dependent Potassium Current Increases Atrial Defibrillation Threshold by Favoring Post-Shock Re-Initiation. Scientific Reports, 2015, 5, 15187.	1.6	7
74	A Comparative Study of Early Afterdepolarization-Mediated Fibrillation in Two Mathematical Models for Human Ventricular Cells. PLoS ONE, 2015, 10, e0130632.	1.1	26
75	Conditions for Waveblock Due to Anisotropy in a Model of Human Ventricular Tissue. PLoS ONE, 2015, 10, e0141832.	1.1	6
76	Drift of Scroll Wave Filaments in an Anisotropic Model of the Left Ventricle of the Human Heart. BioMed Research International, 2015, 2015, 1-13.	0.9	13
77	A study of early afterdepolarizations in human ventricular tissue. , 2015, , .		0
78	Discrete Mechanical Modeling of Mechanoelectrical Feedback in Cardiac Tissue: Novel Mechanisms of Spiral Wave Initiation. Modeling, Simulation and Applications, 2015, , 29-50.	1.3	1
79	A theory for spiral wave drift in reaction-diffusion-mechanics systems. New Journal of Physics, 2015, 17, 043055.	1.2	5
80	Decreased repolarization reserve increases defibrillation threshold by favoring early afterdepolarizations in an in silico model of human ventricular tissue. Heart Rhythm, 2015, 12, 1088-1096.	0.3	11
81	Heart Modeling. , 2015, , 635-639.		0
82	A Study of Early Afterdepolarizations in a Model for Human Ventricular Tissue. PLoS ONE, 2014, 9, e84595.	1.1	64
83	Turbulent electrical activity at sharp-edged inexcitable obstacles in a model for human cardiac tissue. American Journal of Physiology - Heart and Circulatory Physiology, 2014, 307, H1024-H1035.	1.5	15
84	Effect of Global Cardiac Ischemia on Human Ventricular Fibrillation: Insights from a Multi-scale Mechanistic Model of the Human Heart. PLoS Computational Biology, 2014, 10, e1003891.	1.5	41
85	288Termination of reentrant tachyarrhythmias by light: from electroshock towards shockless cardioversion by cardiac optogenetics. Cardiovascular Research, 2014, 103, S52.2-S52.	1.8	0
86	Light-induced termination of spiral wave arrhythmias by optogenetic engineering of atrial cardiomyocytes. Cardiovascular Research, 2014, 104, 194-205.	1.8	108
87	Small size ionic heterogeneities in the human heart can attract rotors. American Journal of Physiology - Heart and Circulatory Physiology, 2014, 307, H1456-H1468.	1.5	24
88	Chiral selection and frequency response of spiral waves in reaction-diffusion systems under a chiral electric field. Journal of Chemical Physics, 2014, 140, 184901.	1.2	15
89	Electrical Wave Propagation in an Anisotropic Model of the Left Ventricle Based on Analytical Description of Cardiac Architecture. PLoS ONE, 2014, 9, e93617.	1.1	30
90	Drift laws for spiral waves on curved anisotropic surfaces. Physical Review E, 2013, 88, 012908.	0.8	42

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91	Mathematical model of the anatomy and fibre orientation field of the left ventricle of the heart. BioMedical Engineering OnLine, 2013, 12, 54.	1.3	58
92	Negative Tension of Scroll Wave Filaments and Turbulence in Three-Dimensional Excitable Media and Application in Cardiac Dynamics. Bulletin of Mathematical Biology, 2013, 75, 1351-1376.	0.9	24
93	Atrium-Specific Kir3.x Determines Inducibility, Dynamics, and Termination of Fibrillation by Regulating Restitution-Driven Alternans. Circulation, 2013, 128, 2732-2744.	1.6	30
94	Initiation and dynamics of a spiral wave around an ionic heterogeneity in a model for human cardiac tissue. Physical Review E, 2013, 88, 062703.	0.8	17
95	Prolongation of minimal action potential duration in sustained fibrillation decreases complexity by transient destabilization. Cardiovascular Research, 2013, 97, 161-170.	1.8	21
96	A Discrete Electromechanical Model for Human Cardiac Tissue: Effects of Stretch-Activated Currents and Stretch Conditions on Restitution Properties and Spiral Wave Dynamics. PLoS ONE, 2013, 8, e59317.	1.1	35
97	Action Potential Duration Heterogeneity of Cardiac Tissue Can Be Evaluated from Cell Properties Using Gaussian Green's Function Approach. PLoS ONE, 2013, 8, e79607.	1.1	15
98	Spiral-Wave Dynamics in a Mathematical Model of Human Ventricular Tissue with Myocytes and Fibroblasts. PLoS ONE, 2013, 8, e72950.	1.1	55
99	Emergence of Spiral Wave Activity in a Mechanically Heterogeneous Reaction-Diffusion-Mechanics System. Physical Review Letters, 2012, 108, 228104.	2.9	18
100	Models of cardiac tissue electrophysiology: Progress, challenges and open questions. Progress in Biophysics and Molecular Biology, 2011, 104, 22-48.	1.4	483
101	Experiment-model interaction for analysis of epicardial activation during human ventricular fibrillation with global myocardial ischaemia. Progress in Biophysics and Molecular Biology, 2011, 107, 101-111.	1.4	19
102	Minimum Information about a Cardiac Electrophysiology Experiment (MICEE): Standardised reporting for model reproducibility, interoperability, and data sharing. Progress in Biophysics and Molecular Biology, 2011, 107, 4-10.	1.4	75
103	Effects of reduced discrete coupling on filament tension in excitable media. Chaos, 2011, 21, 013118.	1.0	13
104	A Discrete Model to Study Reaction-Diffusion-Mechanics Systems. PLoS ONE, 2011, 6, e21934.	1.1	28
105	New Mechanism of Spiral Wave Initiation in a Reaction-Diffusion-Mechanics System. PLoS ONE, 2011, 6, e27264.	1.1	20
106	Anisotropy of wave propagation in the heart can be modeled by a Riemannian electrophysiological metric. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 15063-15068.	3.3	52
107	Anomalous drift of spiral waves in heterogeneous excitable media. Physical Review E, 2010, 82, 051908.	0.8	22
108	Electromechanical wavebreak in a model of the human left ventricle. American Journal of Physiology - Heart and Circulatory Physiology, 2010, 299, H134-H143.	1.5	90

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109	A computational study of mother rotor VF in the human ventricles. American Journal of Physiology - Heart and Circulatory Physiology, 2009, 296, H370-H379.	1.5	64
110	Organization of ventricular fibrillation in the human heart: experiments and models. Experimental Physiology, 2009, 94, 553-562.	0.9	90
111	Modeling cardiac mechano-electrical feedback using reaction-diffusion-mechanics systems. Physica D: Nonlinear Phenomena, 2009, 238, 1000-1007.	1.3	37
112	A guide to modelling cardiac electrical activity in anatomically detailed ventricles. Progress in Biophysics and Molecular Biology, 2008, 96, 19-43.	1.4	196
113	Modelling of the ventricular conduction system. Progress in Biophysics and Molecular Biology, 2008, 96, 152-170.	1.4	111
114	Effect of heterogeneous APD restitution on VF organization in a model of the human ventricles. American Journal of Physiology - Heart and Circulatory Physiology, 2008, 294, H764-H774.	1.5	63
115	Formation of fast spirals on heterogeneities of an excitable medium. Physical Review E, 2008, 78, 012901.	0.8	5
116	Negative Filament Tension at High Excitability in a Model of Cardiac Tissue. Physical Review Letters, 2008, 100, 218101.	2.9	46
117	Influence of diffuse fibrosis on wave propagation in human ventricular tissue. Europace, 2007, 9, vi38-vi45.	0.7	118
118	Negative filament tension in the Luo-Rudy model of cardiac tissue. Chaos, 2007, 17, 015102.	1.0	32
119	Organization of Ventricular Fibrillation in the Human Heart. Circulation Research, 2007, 100, e87-101.	2.0	157
120	Drift and breakup of spiral waves in reaction diffusion mechanics systems. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 7922-7926.	3.3	93
121	Pacemakers in a Reaction-Diffusion Mechanics System. Journal of Statistical Physics, 2007, 128, 375-392.	0.5	27
122	Is heart size a factor in ventricular fibrillation? Or how close are rabbit and human hearts?. Heart Rhythm, 2006, 3, 862-864.	0.3	120
123	Comparison of electrophysiological models for human ventricular cells and tissues. Progress in Biophysics and Molecular Biology, 2006, 90, 326-345.	1.4	96
124	Phase singularities and filaments: Simplifying complexity in computational models of ventricular fibrillation. Progress in Biophysics and Molecular Biology, 2006, 90, 378-398.	1.4	113
125	Cell model for efficient simulation of wave propagation in human ventricular tissue under normal and pathological conditions. Physics in Medicine and Biology, 2006, 51, 6141-6156.	1.6	189
126	Alternans and spiral breakup in a human ventricular tissue model. American Journal of Physiology - Heart and Circulatory Physiology, 2006, 291, H1088-H1100.	1.5	900

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127	Comments on â€œA model for human ventricular tissueâ€• American Journal of Physiology - Heart and Circulatory Physiology, 2005, 288, H453-H453.	1.5	0
128	Scroll waves meandering in a model of an excitable medium. Physical Review E, 2005, 72, 022902.	0.8	14
129	Wave Propagation in Excitable Media with Randomly Distributed Obstacles. Multiscale Modeling and Simulation, 2005, 3, 265-282.	0.6	38
130	Self-Organized Pacemakers in a Coupled Reaction-Diffusion-Mechanics System. Physical Review Letters, 2005, 95, 258104.	2.9	92
131	Eikonal Formulation of the Minimal Principle for Scroll Wave Filaments. Physical Review Letters, 2004, 93, 108106.	2.9	19
132	Electromechanical model of excitable tissue to study reentrant cardiac arrhythmias. Progress in Biophysics and Molecular Biology, 2004, 85, 501-522.	1.4	322
133	Quantifying Ventricular Fibrillation: In Silico Research and Clinical Implications. IEEE Transactions on Biomedical Engineering, 2004, 51, 195-196.	2.5	15
134	A model for human ventricular tissue. American Journal of Physiology - Heart and Circulatory Physiology, 2004, 286, H1573-H1589.	1.5	1,113
135	Influence of nonexcitable cells on spiral breakup in two-dimensional and three-dimensional excitable media. Physical Review E, 2003, 68, 062902.	0.8	63
136	Spiral wave stability in cardiac tissue with biphasic restitution. Physical Review E, 2003, 68, 021917.	0.8	11
137	REENTRY IN AN ANATOMICAL MODEL OF THE HUMAN VENTRICLES. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2003, 13, 3693-3702.	0.7	8
138	Reentry in heterogeneous cardiac tissue described by the Luo-Rudy ventricular action potential model. American Journal of Physiology - Heart and Circulatory Physiology, 2003, 284, H542-H548.	1.5	88
139	A computationally efficient electrophysiological model of human ventricular cells. American Journal of Physiology - Heart and Circulatory Physiology, 2002, 282, H2296-H2308.	1.5	119
140	Modified ionic models of cardiac tissue for efficient large scale computations. Physics in Medicine and Biology, 2002, 47, 1947-1959.	1.6	21
141	Transition from ventricular fibrillation to ventricular tachycardia: a simulation study on the role of Ca2Â-channel blockers in human ventricular tissue. Physics in Medicine and Biology, 2002, 47, 4167-4179.	1.6	14
142	Spiral Breakup in an Array of Coupled Cells: The Role of the Intercellular Conductance. Physical Review Letters, 2002, 88, 118101.	2.9	65
143	Wave propagation in an excitable medium with a negatively sloped restitution curve. Chaos, 2002, 12, 800-806.	1.0	19
144	Ventricular fibrillation: evolution of the multipleâ€"wavelet hypothesis. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2001, 359, 1315-1325.	1.6	57

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145	Spiral waves in excitable media with negative restitution. Physical Review E, 2001, 63, 041912.	0.8	17
146	Elimination of spiral waves in cardiac tissue by multiple electrical shocks. Physical Review E, 2000, 61, 4644-4647.	0.8	91
147	Phototaxis during the slug stage of Dictyostelium discoideum: a model study. Proceedings of the Royal Society B: Biological Sciences, 1999, 266, 1351-1360.	1.2	49
148	Three-dimensional organization of electrical turbulence in the heart. Physical Review E, 1999, 59, R6251-R6254.	0.8	50
149	Migration and Thermotaxis of Dictyostelium discoideum Slugs, a Model Study. Journal of Theoretical Biology, 1999, 199, 297-309.	0.8	65
150	Spiral breakup as a model of ventricular fibrillation. Chaos, 1998, 8, 57-64.	1.0	212
151	Spiral Breakup in Excitable Tissue due to Lateral Instability. Physical Review Letters, 1997, 78, 1819-1822.	2.9	50
152	A biophysical model for defibrillation of cardiac tissue. Biophysical Journal, 1996, 71, 1335-1345.	0.2	80
153	Modeling of Heart Excitation Patterns caused by a Local Inhomogeneity. Journal of Theoretical Biology, 1996, 181, 33-40.	0.8	37
154	Spatial Pattern Formation During Aggregation of the Slime MouldDictyostelium discoideum. Journal of Theoretical Biology, 1996, 181, 203-213.	0.8	80
155	A simple two-variable model of cardiac excitation. Chaos, Solitons and Fractals, 1996, 7, 293-301.	2.5	640
156	Scroll breakup in a three-dimensional excitable medium. Physical Review E, 1996, 53, 1740-1743.	0.8	26
157	Re-entry in three-dimensional Fitzhugh-Nagumo medium with rotational anisotropy. Physica D: Nonlinear Phenomena, 1995, 84, 545-552.	1.3	73
158	Re-entry in an anatomical model of the heart. Chaos, Solitons and Fractals, 1995, 5, 681-689.	2.5	61
159	Multiple responses at the boundaries of the vulnerable window in the Belousov-Zhabotinsky reaction. Physical Review E, 1995, 52, 2287-2293.	0.8	12
160	Mechanisms of Cardiac Fibrillation. Science, 1995, 270, 1222-1222.	6.0	408
161	Dynamics of Dissipative Structures in Reaction-Diffusion Equations. SIAM Journal on Applied Mathematics, 1995, 55, 205-219.	0.8	9
162	Nonstationary Vortexlike Reentrant Activity as a Mechanism of Polymorphic Ventricular Tachycardia in the Isolated Rabbit Heart. Circulation, 1995, 91, 2454-2469.	1.6	232

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163	Mechanisms of cardiac fibrillation. Science, 1995, 270, 1222-3; author reply 1224-5.	6.0	97
164	Mechanisms of cardiac fibrillation. Science, 1995, 270, 1223-4; author reply 1224-5.	6.0	32
165	Simulation ofDictyostelium DiscoideumAggregation via Reaction-Diffusion Model. Physical Review Letters, 1994, 73, 3173-3176.	2.9	86
166	Large pulsating waves in a one-dimensional excitable medium. Physics Letters, Section A: General, Atomic and Solid State Physics, 1994, 192, 227-232.	0.9	4
167	Rotating Spiral Waves Created by Geometry. Science, 1994, 264, 1746-1748.	6.0	139
168	Computer Simulation of Re-entry Sources in Myocardium in Two and Three Dimensions. Journal of Theoretical Biology, 1993, 161, 271-285.	0.8	57
169	Effects of High Frequency Stimulation on Cardiac Tissue with an Inexcitable Obstacle. Journal of Theoretical Biology, 1993, 163, 439-448.	0.8	67
170	Spiral breakup in a modified FitzHugh-Nagumo model. Physics Letters, Section A: General, Atomic and Solid State Physics, 1993, 176, 295-299.	0.9	139
171	Generation of Reentry in Anisotropic Myocardium. Journal of Cardiovascular Electrophysiology, 1993, 4, 412-421.	0.8	59
172	TWISTED SCROLL WAVES IN HETEROGENEOUS EXCITABLE MEDIA. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1993, 03, 445-450.	0.7	11
173	Graphical identification of spatio-temporal chaos. Computers and Graphics, 1991, 15, 301-302.	1.4	0
174	The drift of a vortex in an inhomogeneous system of two coupled fibers. Chaos, Solitons and Fractals, 1991, 1, 119-129.	2.5	11
175	Vortex initiation in a heterogeneous excitable medium. Physica D: Nonlinear Phenomena, 1991, 49, 107-113.	1.3	60
176	SPATIOTEMPORAL IRREGULARITY IN A TWO-DIMENSIONAL MODEL OF CARDIAC TISSUE. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 1991, 01, 219-225.	0.7	60
177	Three Dimensional Vortices in Active Media. NATO ASI Series Series B: Physics, 1991, , 361-381.	0.2	5
178	Vortices in a system of two coupled excitable fibers. Physics Letters, Section A: General, Atomic and Solid State Physics, 1990, 147, 463-466.	0.9	36
179	Self-generation of turbulent vortices in a two-dimensional model of cardiac tissue. Physics Letters, Section A: General, Atomic and Solid State Physics, 1990, 151, 23-26.	0.9	54
180	Three-dimensional vortex with a spiral filament in a chemically active medium. Physica D: Nonlinear Phenomena, 1989, 39, 38-42.	1.3	35

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181	An integral invariant for scroll rings in a reaction-diffusion system. Physica D: Nonlinear Phenomena, 1989, 36, 181-188.	1.3	27
182	Nonstationary rotation of spiral waves: Three-dimensional effect. Physica D: Nonlinear Phenomena, 1988, 29, 409-415.	1.3	18
183	Two regimes of the scroll ring drift in the three-dimensional active media. Physica D: Nonlinear Phenomena, 1987, 28, 215-218.	1.3	85
184	The Boyle-Conway model including the effect of an electrogenic pump for nonexcitable cells. Mathematical Biosciences, 1986, 79, 45-54.	0.9	7
185	Twisted scroll waves in active three-dimensional media. Physics Letters, Section A: General, Atomic and Solid State Physics, 1985, 109, 246-250.	0.9	38
186	Dynamical simulations of twisted scroll rings in three-dimensional excitable media. Physica D: Nonlinear Phenomena, 1985, 17, 323-330.	1.3	37
187	Rotating spiral waves in a modified Fitz-Hugh-Nagumo model. Physica D: Nonlinear Phenomena, 1984, 14, 117-124.	1.3	91
188	Spiral waves in active media. Radiophysics and Quantum Electronics, 1984, 27, 783-793.	0.1	2
189	Mechano-Electric Feedbacks in a New Model of the Excitation-Contraction Coupling in Human Cardiomyocytes. , 0, , .		1