Sergey A Akimov

List of Publications by Year
in descending order

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papers

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citations

279701
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all docs

108
docs citations

108
times ranked

1952
citing authors

#	Article	IF	Citations
1	Line Tension and Interaction Energies of Membrane Rafts Calculated from Lipid Splay and Tilt. Biophysical Journal, 2005, 88, 1120-1133.	0.2	295
2	GTPase Cycle of Dynamin Is Coupled to Membrane Squeeze and Release, Leading to Spontaneous Fission. Cell, 2008, 135, 1276-1286.	13.5	269
3	The mobility of single-file water molecules is governed by the number of H-bonds they may form with channel-lining residues. Science Advances, 2015, 1, e1400083.	4.7	135
4	Geometric Catalysis of Membrane Fission Driven by Flexible Dynamin Rings. Science, 2013, 339, 1433-1436.	6.0	123
5	Pore formation in lipid membrane I: Continuous reversible trajectory from intact bilayer through hydrophobic defect to transversal pore. Scientific Reports, 2017, 7, 12152.	1.6	102
6	Lateral tension increases the line tension between two domains in a lipid bilayer membrane. Physical Review E, 2007, 75, 011919.	0.8	75
7	Pore formation in lipid membrane II: Energy landscape under external stress. Scientific Reports, 2017, 7, 12509.	1.6	73
8	Helix-helix interactions in membrane domains of bitopic proteins: Specificity and role of lipid environment. Biochimica Et Biophysica Acta - Biomembranes, 2017, 1859, 561-576.	1.4	72
9	An elastic theory for line tension at a boundary separating two lipid monolayer regions of different thickness. Journal of Electroanalytical Chemistry, 2004, 564, 13-18.	1.9	67
10	Elastic Membrane Deformations Govern Interleaflet Coupling of Lipid-Ordered Domains. Physical Review Letters, 2015, 115, 088101.	2.9	66
11	Origin of proton affinity to membrane/water interfaces. Scientific Reports, 2017, 7, 4553.	1.6	49
12	Long and Short Lipid Molecules Experience the Same Interleaflet Drag in Lipid Bilayers. Physical Review Letters, 2013, 110, 268101.	2.9	40
13	Geometry of membrane fission. Chemistry and Physics of Lipids, 2015, 185, 129-140.	1.5	40
14	Line Activity of Ganglioside GM1 Regulates the Raft Size Distribution in a Cholesterol-Dependent Manner. Langmuir, 2017, 33, 3517-3524.	1.6	37
15	Undulations Drive Domain Registration from theÂTwo Membrane Leaflets. Biophysical Journal, 2017, 112, 339-345.	0.2	34
16	Synaptotagmin: fusogenic role for calcium sensor?. Nature Structural and Molecular Biology, 2006, 13, 301-303.	3.6	32
17	Domain formation in membranes caused by lipid wetting of protein. Physical Review E, 2008, 77, 051901.	0.8	31
18	Metabolic Precursor of Cholesterol Causes Formation of Chained Aggregates of Liquid-Ordered Domains. Langmuir, 2016, 32, 1591-1600.	1.6	30

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19	Ordered Lipid Domains Assemble via Concerted Recruitment of Constituents from Both Membrane Leaflets. Physical Review Letters, 2020, 124, 108102.	2.9	29
20	Continuum Models of Membrane Fusion: Evolution of the Theory. International Journal of Molecular Sciences, 2020, 21, 3875.	1.8	27
21	Elastic deformations mediate interaction of the raft boundary with membrane inclusions leading to their effective lateral sorting. Scientific Reports, 2020, 10, 4087.	1.6	27
22	Membrane-mediated interaction of amphipathic peptides can be described by a one-dimensional approach. Physical Review E, 2019, 99, 022401.	0.8	26
23	Membrane Elastic Deformations Modulate Gramicidin A Transbilayer Dimerization and Lateral Clustering. Biophysical Journal, 2018, 115, 478-493.	0.2	25
24	Energy of the interaction between membrane lipid domains calculated from splay and tilt deformations. JETP Letters, 2013, 96, 681-686.	0.4	22
25	Lateral Membrane Heterogeneity Regulates Viral-Induced Membrane Fusion during HIV Entry. International Journal of Molecular Sciences, 2018, 19, 1483.	1.8	22
26	Residence time of singlet oxygen in membranes. Scientific Reports, 2018, 8, 14000.	1.6	17
27	Phosphatidylcholine Membrane Fusion Is pH-Dependent. International Journal of Molecular Sciences, 2018, 19, 1358.	1.8	17
28	Photoswitching of model ion channels in lipid bilayers. Journal of Photochemistry and Photobiology B: Biology, 2021, 224, 112320.	1.7	17
29	Switching between Successful and Dead-End Intermediates in Membrane Fusion. International Journal of Molecular Sciences, 2017, 18, 2598.	1.8	15
30	Variation of lipid membrane composition caused by strong bending. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2011, 5, 205-211.	0.3	14
31	GalimzyanovetÂal.Reply:. Physical Review Letters, 2016, 116, 079802.	2.9	14
32	Monolayerwise application of linear elasticity theory well describes strongly deformed lipid membranes and the effect of solvent. Soft Matter, 2020, 16, 1179-1189.	1.2	14
33	Elastic deformations of bolalipid membranes. Soft Matter, 2016, 12, 2357-2364.	1.2	13
34	Stabilization of bilayer structure of raft due to elastic deformations of membrane. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2011, 5, 286-292.	0.3	12
35	Additional contributions to elastic energy of lipid membranes: Tilt-curvature coupling and curvature gradient. Physical Review E, 2020, 102, 042406.	0.8	11
36	Calculation of line tension in various models of lipid bilayer pore edge. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2009, 3, 223-230.	0.3	10

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37	Effects of Sterols on the Interaction of SDS, Benzalkonium Chloride, and A Novel Compound, Kor105, with Membranes. Biomolecules, 2019, 9, 627.	1.8	10
38	Amphipathic Peptides Impede Lipid Domain Fusion in Phase-Separated Membranes. Membranes, 2021, 11, 797.	1.4	10
39	Model of membrane fusion: Continuous transition to fusion pore with regard of hydrophobic and hydration interactions. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2014, 8, 153-161.	0.3	9
40	The Effect of Transmembrane Protein Shape on Surrounding Lipid Domain Formation by Wetting. Biomolecules, 2019, 9, 729.	1.8	9
41	Ganglioside GM1 increases line tension at raft boundary in model membranes. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2009, 3, 216-222.	0.3	8
42	Phase separation in lipid membranes induced by the elastic properties of components. JETP Letters, 2011, 93, 463-469.	0.4	8
43	Interaction of amphipathic peptides mediated by elastic membrane deformations. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2017, 11, 206-216.	0.3	7
44	Peptide-induced membrane elastic deformations decelerate gramicidin dimer-monomer equilibration. Biophysical Journal, 2021, 120, 5309-5321.	0.2	7
45	Regulation of Antimicrobial Peptide Activity via Tuning Deformation Fields by Membrane-Deforming Inclusions. International Journal of Molecular Sciences, 2022, 23, 326.	1.8	7
46	Determinants of Lipid Domain Size. International Journal of Molecular Sciences, 2022, 23, 3502.	1.8	7
47	Membrane-Mediated Lateral Interactions Regulate the Lifetime of Gramicidin Channels. Membranes, 2020, 10, 368.	1.4	6
48	Characteristic lengths of transmembrane peptides controlling their tilt and lateral distribution between membrane domains. Physical Review E, 2021, 104, 044411.	0.8	6
49	Hydrophobic Mismatch Controls the Mode of Membrane-Mediated Interactions of Transmembrane Peptides. Membranes, 2022, 12, 89.	1.4	6
50	Ectodomain Pulling Combines with Fusion Peptide Inserting to Provide Cooperative Fusion for Influenza Virus and HIV. International Journal of Molecular Sciences, 2020, 21, 5411.	1.8	5
51	Isoprenoid lipid chains increase membrane resistance to pore formation. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2014, 8, 304-308.	0.3	4
52	Mechanism of pore formation in stearoyl-oleoyl-phosphatidylcholine membranes subjected to lateral tension. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2017, 11, 193-205.	0.3	3
53	Detection of DNA molecules in a lipid nanotube channel in the low ion strength conditions. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2017, 11, 217-224.	0.3	3
54	Membrane Curvature and Fission By Dynamin: Mechanics, Dynamics and Partners. Biophysical Journal, 2010, 98, 2a.	0.2	2

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55	Line tension and structure of through pore edge in lipid bilayer. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2014, 8, 297-303.	0.3	2
56	Membrane fusion. Two possible mechanisms underlying a decrease in the fusion energy barrier in the presence of fusion proteins. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2015, 9, 65-76.	0.3	2
57	Mobility of Single-File Water Molecules in Aquaporins. Biophysical Journal, 2015, 108, 182a.	0.2	2
58	Line Tension Of Membrane Domains Calculated From Chemical Interactions Betweem Lipids And Elastic Splay And Tilt. Biophysical Journal, 2009, 96, 607a.	0.2	1
59	Influence Of Ganglioside GM1 On Formation And Properties Of Rafts In Lipid Membranes. Biophysical Journal, 2009, 96, 448a.	0.2	1
60	Line tension and structure of raft boundary calculated from bending, tilt, and lateral compression/stretching. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2011, 5, 385-391.	0.3	1
61	Membrane shape changes at initial stage of membrane fusion under the action of proteins inducing spontaneous curvature. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2013, 7, 234-241.	0.3	1
62	Bolalipid Membranes: Elasticity Theory Approach. Biophysical Journal, 2015, 108, 88a.	0.2	1
63	Lateral redistribution of transmembrane proteins and liquid-ordered domains in lipid membranes with inhomogeneous curvature. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2016, 10, 259-268.	0.3	1
64	Normal Fluctuations of Biological Membrane Shape as a Coupling Factor for Ordered Monolayer Domains. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2019, 13, 205-211.	0.3	1
65	Interaction of Peptides Containing CRAC Motifs with Lipids in Membranes of Various Composition. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2021, 15, 120-129.	0.3	1
66	Interaction of Ordered Lipid Domains in the Presence of Amphipatic Peptides. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2021, 15, 219-229.	0.3	1
67	Editorial: Bridging Membrane Biophysics to Microbiology: Innovating Towards New Peptide and Peptide-Based Antimicrobials. Frontiers in Medical Technology, 2021, 3, 699154.	1.3	1
68	The Membrane-Water Partition Coefficients of Antifungal, but Not Antibacterial, Membrane-Active Compounds Are Similar. Frontiers in Microbiology, 2021, 12, 756408.	1.5	1
69	Interaction of Ordered Lipid Domain Boundaries and Amphipathic Peptides Regulates Probability of Pore Formation in Membranes. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2020, 14, 319-330.	0.3	1
70	Elastic Deformations at a Boundary Stabilizes Opposion of Monolayer Rafts in the Structure of a Bilayer Raft. Biophysical Journal, 2012, 102, 295a.	0.2	0
71	A Quantitative Model for Formation of Protein-Mediated Protrusions, Based on Continuum Elasticity Theory. Biophysical Journal, 2012, 102, 500a.	0.2	0
72	Coordination of Bending and Wedging in Membrane Fission. Biophysical Journal, 2012, 102, 322a.	0.2	0

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73	Stabilization of a complex of fusion proteins by membrane deformations. Biophysics (Russian) Tj ETQq1 1 0.784314 rgBT /Overlock 10 T	0.2	0
74	Interaction at the Membrane Midplane Mediates Interleaflet Coupling. Biophysical Journal, 2013, 104, 433a.	0.2	0
75	Raft Boundary Structure is Responsible for Monolayer Domains Coupling and Line Activity of Non-Bilayer Components. Biophysical Journal, 2014, 106, 93a.	0.2	0
76	Phenomenological Elasticity Theory Approach to Bolalipid Membranes. Biophysical Journal, 2014, 106, 287a.	0.2	0
77	Edge Structure of through Pore in Lipid Membrane. Biophysical Journal, 2015, 108, 88a.	0.2	0
78	Water Transport by the Sodium Glucose Cotransporter SGLT1. Biophysical Journal, 2016, 110, 136a.	0.2	0
79	Mechanism of Line Activity of Ganglioside GM1 on Liquid-Ordered Domains. Biophysical Journal, 2016, 110, 582a.	0.2	0
80	Transbilayer Registration of Liquid-Ordered Domains: No Interactions at the Membrane Midplane Required. Biophysical Journal, 2016, 110, 579a.	0.2	0
81	Liquid Membrane Fluctuations Drive Ordered Monolayer Domain Alignment and Raft Stacking. Biophysical Journal, 2017, 112, 383a.	0.2	0
82	Functional Characterization of the Urea Transporter UreI from Helicobactor Pylori. Biophysical Journal, 2017, 112, 16a.	0.2	0
83	The Pathway of Singlet Oxygen Diffusion through the Membrane Governs Whether Double Bonds or Aromatic Rings of a Molecule are Damaged. Biophysical Journal, 2017, 112, 522a-523a.	0.2	0
84	Mechanism of Water and Solute Cotransport by the Sodium Glucose Cotransporter SGLT1. Biophysical Journal, 2017, 112, 549a.	0.2	0
85	Energy Landscape of Pore Formation in Bilayer Lipid Membrane. Biophysical Journal, 2017, 112, 468a.	0.2	0
86	Energy Landscape of Membrane Deformations Predicts Mechanism of Pore Formation by Antimicrobial Peptides. Biophysical Journal, 2018, 114, 260a.	0.2	0
87	Leaky Intermediates and Possible Dead-End Configurations in Membrane Fusion. Biophysical Journal, 2018, 114, 606a.	0.2	0
88	Lipid Domain Boundary as Universal Attractor. Biophysical Journal, 2018, 114, 102a.	0.2	0
89	Gangliosides and Lysolipids Regulate the Size of Membrane Rafts Depending on the Membrane Composition. Biophysical Journal, 2018, 114, 271a.	0.2	0
90	Membrane-Mediated Gramicidin Interactions Determine Peptide Clustering and Enhance Channel Formation. Biophysical Journal, 2018, 114, 277a-278a.	0.2	0

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91	Ordered Lipid Domains Assemble via Concerted Recruitment of Constituents from Both Membrane Leaflets. Biophysical Journal, 2019, 116, 328a.	0.2	0
92	Elastic Membrane Deformations Determine Interaction of Gramicidin aÂDimers, Monomers, and Pairs thereby Modulating the Lifetime of the Conducting State. Biophysical Journal, 2020, 118, 555a.	0.2	0
93	Effect of Lipid Structure and Material Properties on the Membrane Stability to Pore Formation. Biophysical Journal, 2020, 118, 390a.	0.2	0
94	Lateral Interactions Influence the Kinetics of Metastable Pores in Lipid Membranes. Biochemistry (Moscow) Supplement Series A: Membrane and Cell Biology, 2020, 14, 117-125.	0.3	0
95	Interleaflet Interaction in Phase Separated Asymmetric Lipid Bilayers. Biophysical Journal, 2020, 118, 388a.	0.2	0
96	Physicochemical and Electrochemical Aspects of the Functioning of Biological Membranes. Russian Journal of Physical Chemistry A, 2020, 94, 471-476.	0.1	0
97	Simulation of the Influenza Fusion Peptide Pre-Pore Structure. Biophysical Journal, 2021, 120, 321a.	0.2	0
98	Determinants of Membrane Domain Size. Biophysical Journal, 2021, 120, 40a.	0.2	0