

Hans Frauenfelder

List of Publications by Year in descending order

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Version: 2024-02-01

63
papers

5,145
citations

236925

25
h-index

206112

48
g-index

66
all docs

66
docs citations

66
times ranked

2913
citing authors

#	ARTICLE	IF	CITATIONS
1	Temperature-dependent X-ray diffraction as a probe of protein structural dynamics. <i>Nature</i> , 1979, 280, 558-563.	27.8	1,184
2	A unified model of protein dynamics. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009, 106, 5129-5134.	7.1	662
3	Bulk-solvent and hydration-shell fluctuations, similar to \hat{A} - and \hat{A} -fluctuations in glasses, control protein motions and functions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2004, 101, 14408-14413.	7.1	490
4	Ligand binding to heme proteins: connection between dynamics and function. <i>Biochemistry</i> , 1991, 30, 3988-4001.	2.5	392
5	Rebinding and relaxation in the myoglobin pocket. <i>Biophysical Chemistry</i> , 1987, 26, 337-355.	2.8	372
6	Proteins and pressure. <i>The Journal of Physical Chemistry</i> , 1990, 94, 1024-1037.	2.9	302
7	Biomolecules: Where the Physics of Complexity and Simplicity Meet. <i>Physics Today</i> , 1994, 47, 58-64.	0.3	194
8	Biological Physics. <i>Reviews of Modern Physics</i> , 1999, 71, S419-S430.	45.6	185
9	Hydration, slaving and protein function. <i>Biophysical Chemistry</i> , 2002, 98, 35-48.	2.8	121
10	Ligand Binding to Heme Proteins: The Effect of Light on Ligand Binding in Myoglobin. <i>Biochemistry</i> , 1994, 33, 13413-13430.	2.5	111
11	Time- and temperature dependence of large-scale conformational transitions in myoglobin. <i>Chemical Physics</i> , 1991, 158, 315-327.	1.9	94
12	Ligand binding to heme proteins: relevance of low-temperature data. <i>Biochemistry</i> , 1986, 25, 3139-3146.	2.5	89
13	Exploring the conformational energy landscape of proteins. <i>Physica D: Nonlinear Phenomena</i> , 1997, 107, 297-311.	2.8	83
14	The energy landscape in non-biological and biological molecules. <i>Nature Structural Biology</i> , 1998, 5, 757-759.	9.7	83
15	Mosaic Energy Landscapes of Liquids and the Control of Protein Conformational Dynamics by Glass-Forming Solvents. <i>Journal of Physical Chemistry B</i> , 2005, 109, 7488-7499.	2.6	73
16	Complexity in proteins. <i>Nature Structural Biology</i> , 1995, 2, 821-823.	9.7	64
17	Protein dynamics and function: Insights from the energy landscape and solvent slaving. <i>IUBMB Life</i> , 2007, 59, 506-512.	3.4	63
18	Variations on a theme by Debye and Waller: From simple crystals to proteins. , 1997, 29, 153-160.		62

#	ARTICLE	IF	CITATIONS
19	Rate Processes in Proteins. Zeitschrift Fur Elektrotechnik Und Elektrochemie, 1991, 95, 272-278.	0.9	51
20	Protein dynamics. Physica A: Statistical Mechanics and Its Applications, 1993, 201, 332-345.	2.6	51
21	[14] Protein dynamics and hydration. Methods in Enzymology, 1986, 127, 207-216.	1.0	47
22	Concepts and problems in protein dynamics. Chemical Physics, 2013, 424, 2-6.	1.9	45
23	Picosecond Thermometer in the Amide I Band of Myoglobin. Physical Review Letters, 2005, 94, 128101.	7.8	38
24	Recombination of carbon monoxide to ferrous horseradish peroxidase types A and C. Journal of Molecular Biology, 1987, 194, 299-312.	4.2	37
25	The Debye-Waller factor: From villain to hero in protein crystallography. International Journal of Quantum Chemistry, 1989, 35, 711-715.	2.0	28
26	Mössbauer Effect in Proteins. Physical Review Letters, 2011, 107, 158102.	7.8	27
27	Function and Dynamics of Myoglobin. Annals of the New York Academy of Sciences, 1987, 504, 151-167.	3.8	25
28	Dynamics and the Free-Energy Landscape of Proteins, Explored with the Mössbauer Effect and Quasi-Elastic Neutron Scattering. Journal of Physical Chemistry B, 2013, 117, 13301-13307.	2.6	19
29	New looks at protein motions. Nature, 1989, 338, 623-624.	27.8	17
30	What determines the speed limit on enzyme catalysis?. Nature Chemical Biology, 2008, 4, 21-22.	8.0	17
31	Relaxations and fluctuations in myoglobin. BioSystems, 2001, 62, 3-8.	2.0	14
32	[28] Principles of ligand binding to heme proteins. Methods in Enzymology, 1978, 54, 506-532.	1.0	13
33	A wave-mechanical model of incoherent quasielastic scattering in complex systems. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 12764-12768.	7.1	12
34	Energy Landscape and Dynamics of Biomolecules Extended Abstract. Journal of Biological Physics, 2005, 31, 413-416.	1.5	8
35	Proteins, supercooled liquids, and glasses: A micro-review. Physica E: Low-Dimensional Systems and Nanostructures, 2010, 42, 662-665.	2.7	8
36	Ask not what physics can do for biology—ask what biology can do for physics. Physical Biology, 2014, 11, 053004.	1.8	8

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37	The role of momentum transfer during incoherent neutron scattering is explained by the energy landscape model. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 5130-5135.	7.1	8
38	Proteins and Glasses. , 1986, , 169-177.		8
39	Neutron scattering and protein dynamics. Acta Crystallographica Section D: Biological Crystallography, 2010, 66, 1229-1231.	2.5	7
40	The role of continuous and discrete water structures in protein function. European Physical Journal: Special Topics, 2014, 223, 915-926.	2.6	7
41	Myoglobin as an example of protein complexity. Chemical Physics, 2010, 375, 612-615.	1.9	4
42	Physics from Proteins. NATO ASI Series Series B: Physics, 1991, , 1-14.	0.2	3
43	Structural fluctuations in proteins. Biophysics of Structure and Mechanism, 1981, 7, 226-227.	1.9	2
44	Physical concepts in biologyâ€™past and future. Physical Biology, 2017, 14, 010402.	1.8	2
45	Protein Dynamics and Function. , 1988, , 15-22.		2
46	Dynamic Proteins. , 1982, , 327-345.		2
47	Proteins and Glasses. Materials Research Society Symposia Proceedings, 1996, 455, 343.	0.1	1
48	Proteins: A challenging many-body problem. The Philosophical Magazine: Physics of Condensed Matter B, Statistical Mechanics, Electronic, Optical and Magnetic Properties, 1996, 74, 579-585.	0.6	1
49	Reply to Wuttke: Our reinterpretation of QENS does not violate scattering theory. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E8319-E8319.	7.1	1
50	Conformational Substates. Biological and Medical Physics Series, 2010, , 97-112.	0.4	1
51	Protein Dynamics and Function. , 1998, , 95-102.		1
52	Heme Protein Reactions: Models, Concepts, and Problems. Springer Series in Biophysics, 1987, , 10-14.	0.4	1
53	Introduction to Hemoproteins. , 1982, , 321-337.		1
54	Protein dynamics: A brief overview. , 1991, , 173-176.		1

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55	Ligand Binding as a Probe of Protein Dynamics. , 1983, , 227-236.		1
56	THE RESEARCH FRONTIER: Time Reversal Tests in Electromagnetic Transitions. Physics Teacher, 1969, 7, 119-119.	0.3	0
57	The protein as a physics laboratory. , 1987, , 1-14.		0
58	Giorgio Careri: A physicist in the life sciences. Journal of Biological Physics, 2012, 38, 3-3.	1.5	0
59	Creative Homework: Dynamics and Function. Biological and Medical Physics Series, 2010, , 209-236.	0.4	0
60	Protein Quantum Dynamics? (R. H. Austin ¹). Biological and Medical Physics Series, 2010, , 199-208.	0.4	0
61	Protein Dynamics. Biological and Medical Physics Series, 2010, , 175-196.	0.4	0
62	Dynamics of Heme Proteins. , 1982, , 33-41.		0
63	Picturing the Working Protein. , 1997, , 231-236.		0