

# Bela Joos

## List of Publications by Citations

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86  
papers

1,987  
citations

24  
h-index

42  
g-index

100  
ext. papers

2,161  
ext. citations

3  
avg, IF

4.52  
L-index

#	Paper	IF	Citations
86	The Peierls Stress of Dislocations: An Analytic Formula. <i>Physical Review Letters</i> , <b>1997</b> , 78, 266-269	7.4	223
85	Peierls-Nabarro model of dislocations in silicon with generalized stacking-fault restoring forces. <i>Physical Review B</i> , <b>1994</b> , 50, 5890-5898	3.3	203
84	Acceptor complexes in germanium: Systems with tunneling hydrogen. <i>Physical Review B</i> , <b>1980</b> , 21, 4729-4739	4.3	108
83	Distribution of terrace widths on a vicinal surface within the one-dimensional free-fermion model. <i>Physical Review B</i> , <b>1991</b> , 43, 8153-8162	3.3	95
82	Stability criteria for homogeneously stressed materials and the calculation of elastic constants. <i>Physical Review B</i> , <b>1996</b> , 54, 3841-3850	3.3	81
81	Stimulation-induced ectopicity and propagation windows in model damaged axons. <i>BMC Neuroscience</i> , <b>2014</b> , 15,	3.2	78
80	Krypton on graphite: Microstructure at zero temperature. <i>Physical Review B</i> , <b>1983</b> , 27, 7669-7675	3.3	77
79	Donor complex with tunneling hydrogen in pure germanium. <i>Physical Review B</i> , <b>1980</b> , 22, 832-840	3.3	66
78	Dislocation core studies in empirical silicon models. <i>Physical Review B</i> , <b>1991</b> , 43, 5143-5146	3.3	64
77	Test of the Peierls-Nabarro model for dislocations in silicon. <i>Physical Review B</i> , <b>1995</b> , 52, 13223-13228	3.3	53
76	Coupled left-shift of Nav channels: modeling the Na <sup>+</sup> -loading and dysfunctional excitability of damaged axons. <i>Journal of Computational Neuroscience</i> , <b>2012</b> , 33, 301-19	1.4	46
75	Dislocation energies in rare-gas monolayers on graphite. <i>Physical Review Letters</i> , <b>1985</b> , 55, 1997-2000	7.4	43
74	Ground-state properties of xenon on graphite. <i>Physical Review B</i> , <b>1983</b> , 28, 7219-7224	3.3	37
73	Entropic Elasticity of Diluted Central Force Networks. <i>Physical Review Letters</i> , <b>1998</b> , 80, 4907-4910	7.4	36
72	Elasticity and stability of a helical filament. <i>Physical Review E</i> , <b>2005</b> , 71, 052801	2.4	32
71	Theory of the onset of charge-density-wave conduction. <i>Physical Review B</i> , <b>1984</b> , 29, 1094-1096	3.3	32
70	Spontaneous excitation patterns computed for axons with injury-like impairments of sodium channels and Na/K pumps. <i>PLoS Computational Biology</i> , <b>2012</b> , 8, e1002664	5	30

69	Dislocation dipoles in rare-gas monolayers. <i>Physical Review B</i> , <b>1986</b> , 33, 8632-8642	3.3	30
68	Aubry transition in a finite modulated chain. <i>Physical Review B</i> , <b>1984</b> , 29, 6335-6340	3.3	30
67	Properties of solitons in the Frenkel-Kontorova model. <i>Solid State Communications</i> , <b>1982</b> , 42, 709-713	1.6	28
66	Shear-induced overaging in a polymer glass. <i>Physical Review Letters</i> , <b>2006</b> , 96, 025501	7.4	27
65	Viscoelasticity near the gel point: a molecular dynamics study. <i>Physical Review E</i> , <b>2001</b> , 64, 031505	2.4	27
64	Dynamics of rare-gas floating monolayers in the self-consistent phonon theory. <i>Physical Review B</i> , <b>1986</b> , 34, 2815-2822	3.3	25
63	Entropic rigidity of randomly diluted two- and three-dimensional networks. <i>Physical Review E</i> , <b>1999</b> , 60, 3129-35	2.4	24
62	Anharmonicity in rare-gas monolayers. <i>Physical Review B</i> , <b>1984</b> , 29, 6999-7002	3.3	23
61	Pore formation in a lipid bilayer under a tension ramp: modeling the distribution of rupture tensions. <i>Biophysical Journal</i> , <b>2007</b> , 92, 4344-55	2.9	21
60	Elastic properties of randomly cross-linked polymers. <i>Physical Review E</i> , <b>1996</b> , 54, 5370-5376	2.4	21
59	Low-temperature behavior of krypton monolayers on graphite. <i>Physical Review B</i> , <b>1988</b> , 38, 2124-2139	3.3	18
58	Fluctuation formulas for the elastic constants of an arbitrary system. <i>Physical Review B</i> , <b>2002</b> , 66,	3.3	17
57	The Peierls-Nabarro model and the mobility of the dislocation line. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , <b>2001</b> , 81, 1329-1340		17
56	Mechanisms of membrane rupture: From cracks to pores. <i>Physical Review B</i> , <b>1997</b> , 56, 2997-3009	3.3	16
55	Left-shifted nav channels in injured bilayer: primary targets for neuroprotective nav antagonists?. <i>Frontiers in Pharmacology</i> , <b>2012</b> , 3, 19	5.6	15
54	Mechanosensitive closed-closed transitions in large membrane proteins: osmoprotection and tension damping. <i>Biophysical Journal</i> , <b>2009</b> , 97, 2761-70	2.9	15
53	Dislocations in two dimensions I. Floating systems. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , <b>1986</b> , 54, 145-163		15
52	Lattice model for the kinetics of rupture of fluid bilayer membranes. <i>Physical Review E</i> , <b>2003</b> , 67, 051908	2.4	14

51	Domain-wall modes for krypton monolayers on graphite. <i>Physical Review B</i> , <b>1986</b> , 34, 7334-7341	3.3	14
50	Perturbed voltage-gated channel activity in perturbed bilayers: implications for ectopic arrhythmias arising from damaged membrane. <i>Progress in Biophysics and Molecular Biology</i> , <b>2012</b> , 110, 245-56	4.7	13
49	Dislocation kink migration energies and the Frenkel-Kontorowa model. <i>Physical Review B</i> , <b>1997</b> , 55, 11163-11166	3.3	13
48	ELASTICITY AND STABILITY OF A HELICAL FILAMENT WITH SPONTANEOUS CURVATURES AND ISOTROPIC BENDING RIGIDITY. <i>Modern Physics Letters B</i> , <b>2007</b> , 21, 1895-1913	1.6	13
47	Coulombic resonance states in zero-gap semiconductors. <i>Physical Review B</i> , <b>1978</b> , 18, 5693-5704	3.3	13
46	The Hv1 proton channel responds to mechanical stimuli. <i>Journal of General Physiology</i> , <b>2016</b> , 148, 405-418	3.4	12
45	Stimulation-induced ectopicity and propagation windows in model damaged axons. <i>Journal of Computational Neuroscience</i> , <b>2014</b> , 37, 523-31	1.4	12
44	Stretching effects on the permeability of water molecules across a lipid bilayer. <i>Journal of Chemical Physics</i> , <b>2007</b> , 127, 105104	3.9	11
43	Renormalized model for the dynamics of the krypton-on-graphite domain-wall lattice. <i>Physical Review B</i> , <b>1989</b> , 40, 10564-10576	3.3	11
42	Commensurate and incommensurate ground states in a one-dimensional model. <i>Physical Review B</i> , <b>1983</b> , 27, 467-473	3.3	11
41	Violation of selection rules for phonon-induced intervalley transitions in silicon. <i>Journal of Physics C: Solid State Physics</i> , <b>1978</b> , 11, 303-313		11
40	Mechanosensitive gating of Kv channels. <i>PLoS ONE</i> , <b>2015</b> , 10, e0118335	3.7	11
39	Rigidity transition in polymer melts with van der Waals interaction. <i>Physical Review E</i> , <b>2004</b> , 70, 041501	2.4	10
38	Disordered, stretched, and semiflexible biopolymers in two dimensions. <i>Physical Review E</i> , <b>2009</b> , 80, 061911	2.1	9
37	Extrusion of small vesicles through nanochannels: a model for experiments and molecular dynamics simulations. <i>Physical Review E</i> , <b>2012</b> , 85, 051910	2.4	9
36	Self-repair of monolayers with vacancy damage. <i>Physical Review Letters</i> , <b>1993</b> , 70, 2754-2757	7.4	9
35	Model for gelation with explicit solvent effects: structure and dynamics. <i>Physical Review E</i> , <b>2003</b> , 67, 011401	2.4	8
34	Influence of the interatomic potential on the structure of dislocations in a monolayer. <i>Surface Science</i> , <b>1994</b> , 302, 385-394	1.8	8

33	Nav Channels in Damaged Membranes. <i>Current Topics in Membranes</i> , <b>2016</b> , 78, 561-97	2.2	8
32	Membrane order parameters for interdigitated lipid bilayers measured via polarized total-internal-reflection fluorescence microscopy. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , <b>2014</b> , 1838, 2861-9	3.8	7
31	Effects of temperature on dislocation properties in Xe monolayers. <i>Physical Review B</i> , <b>1989</b> , 39, 7917-7923	3.1	7
30	Dislocation-mediated healing of ideal and adsorbed monolayers with vacancy damage. <i>Physical Review B</i> , <b>1994</b> , 50, 8763-8772	3.3	6
29	Sequence-dependent effects on the properties of semiflexible biopolymers. <i>Physical Review E</i> , <b>2008</b> , 77, 061906	2.4	5
28	Vacancy annealing kinetics in finite monolayer patches. <i>Surface Science</i> , <b>1995</b> , 323, 311-322	1.8	5
27	Molecular Dynamics Studies of Defects in Si. <i>Materials Research Society Symposia Proceedings</i> , <b>1990</b> , 209, 125		5
26	Dislocations in two dimensions II. Modulated systems. <i>Philosophical Magazine A: Physics of Condensed Matter, Structure, Defects and Mechanical Properties</i> , <b>1986</b> , 54, 165-183		5
25	Resonant impurity states in semiconductors in a strong magnetic field. <i>Physical Review B</i> , <b>1982</b> , 25, 11013-1108	3.1	5
24	Rigorous solution for the elasticity of diluted gaussian spring networks. <i>Physical Review E</i> , <b>2000</b> , 62, 7490-3	2.3	4
23	Convergence issues in molecular dynamics simulations of highly entropic materials. <i>Modelling and Simulation in Materials Science and Engineering</i> , <b>1999</b> , 7, 383-395	2	4
22	Molecular Dynamics studies of Dislocations in Si. <i>Materials Research Society Symposia Proceedings</i> , <b>1989</b> , 163, 941		4
21	Relaxation of a simulated lipid bilayer vesicle compressed by an atomic force microscope. <i>Physical Review E</i> , <b>2016</b> , 94, 052408	2.4	3
20	Microstructure and dynamics of a polymer glass subjected to instantaneous shear strain. <i>Journal of Physics Condensed Matter</i> , <b>2008</b> , 20, 244130	1.8	3
19	Action potential initiation in damaged axon initial segment. <i>BMC Neuroscience</i> , <b>2014</b> , 15,	3.2	2
18	Stability of the helical configuration of an intrinsically straight semiflexible biopolymer inside a cylindrical cell. <i>AIP Advances</i> , <b>2017</b> , 7, 125003	1.5	2
17	Elasticity of randomly diluted central force networks under tension. <i>Physical Review E</i> , <b>2003</b> , 68, 055101	2.4	2
16	Phase diagram for the domain-wall lattice of krypton on graphite. <i>Physical Review B</i> , <b>1990</b> , 41, 4764-4767	3.3	2

15	The dynamics of a honeycomb array of domain walls as a network of interconnected strings. <i>Canadian Journal of Physics</i> , <b>1990</b> , 68, 587-598	1.1	2
14	A model for studying the energetics of sustained high frequency firing. <i>PLoS ONE</i> , <b>2018</b> , 13, e0196508	3.7	2
13	Deformation and rupture of vesicles confined in narrow channels. <i>Canadian Journal of Physics</i> , <b>2017</b> , 95, 916-922	1.1	1
12	Calculating the Consequences of Left-Shifted Nav Channel Activity in Sick Excitable Cells. <i>Handbook of Experimental Pharmacology</i> , <b>2018</b> , 246, 401-422	3.2	1
11	Effect of a force-free end on the mechanical property of a biopolymer [A path integral approach. <i>Chinese Physics B</i> , <b>2016</b> , 25, 088701	1.2	1
10	Realizing the canonical ensemble in highly entropic inhomogeneous materials. <i>Physical Review E</i> , <b>2000</b> , 61, 2410-2417	2.4	1
9	Chapter 55 The Role of Dislocations in Melting. <i>Dislocations in Solids</i> , <b>1996</b> , 10, 505-594		1
8	Phason motion of a two-dimensional domain wall network: effective mass, interactions and effect of anharmonicity. <i>Journal of Physics Condensed Matter</i> , <b>1990</b> , 2, 4099-4110	1.8	1
7	A distribution function for the completion time of a phase change. <i>Journal of Physics C: Solid State Physics</i> , <b>1985</b> , 18, 6311-6321		1
6	Excluded volume reduced mechanical stability for an intrinsically curved biopolymer. <i>Chinese Journal of Physics</i> , <b>2020</b> , 64, 219-226	3.5	1
5	Cooling reverses pathological bifurcations to spontaneous firing caused by mild traumatic injury. <i>Chaos</i> , <b>2018</b> , 28, 106328	3.3	1
4	Entropic elasticity of dilated and contorted idealized circular chains. <i>Physical Review E</i> , <b>2010</b> , 81, 061803	2.4	
3	Dislocations in layered systems. <i>Materials Science and Engineering</i> , <b>1986</b> , 81, 531-542		
2	Resonance states in scattering: some variational methods revisited. <i>Journal of Physics A</i> , <b>1979</b> , 12, 893-903		
1	Entropic Rigidity <b>2002</b> , 315-328		