

# Kim Æ Rasmussen

## List of Publications by Year in descending order

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117  
papers

4,585  
citations

94433

37  
h-index

110387

64  
g-index

118  
all docs

118  
docs citations

118  
times ranked

2392  
citing authors

#	ARTICLE	IF	CITATIONS
1	THE DISCRETE NONLINEAR SCHRÖDINGER EQUATION: A SURVEY OF RECENT RESULTS. International Journal of Modern Physics B, 2001, 15, 2833-2900.	2.0	345
2	Efficient computation of the structural phase behavior of block copolymers. Physical Review E, 2002, 65, 041806.	2.1	288
3	Improved numerical algorithm for exploring block copolymer mesophases. Journal of Polymer Science, Part B: Polymer Physics, 2002, 40, 1777-1783.	2.1	274
4	Ferroelastic dynamics and strain compatibility. Physical Review B, 2003, 67, .	3.2	156
5	DNA dynamically directs its own transcription initiation. Nucleic Acids Research, 2004, 32, 1584-1590.	14.5	156
6	DNA breathing dynamics in the presence of a terahertz field. Physics Letters, Section A: General, Atomic and Solid State Physics, 2010, 374, 1214-1217.	2.1	143
7	Statistical Mechanics of a Discrete Nonlinear System. Physical Review Letters, 2000, 84, 3740-3743.	7.8	138
8	Improved convergence in block copolymer self-consistent field theory by Anderson mixing. Journal of Chemical Physics, 2004, 120, 31-34.	3.0	136
9	Mammalian Stem Cells Reprogramming in Response to Terahertz Radiation. PLoS ONE, 2010, 5, e15806.	2.5	109
10	Bubble Nucleation and Cooperativity in DNA Melting. Physical Review Letters, 2005, 94, 035504.	7.8	108
11	Three-Dimensional Elastic Compatibility and Varieties of Twins in Martensites. Physical Review Letters, 2001, 87, 055704.	7.8	105
12	Sequence-specific thermal fluctuations identify start sites for DNA transcription. Europhysics Letters, 2004, 68, 127-133.	2.0	103
13	Effects of nonlocal dispersive interactions on self-trapping excitations. Physical Review E, 1997, 55, 6141-6150.	2.1	83
14	Selectivity- and Size-Induced Segregation of Molecular and Nanoscale Species in Microphase-Ordered Triblock Copolymers. Nano Letters, 2006, 6, 2115-2120.	9.1	83
15	Exact solutions of the saturable discrete nonlinear Schrödinger equation. Journal of Physics A, 2005, 38, 807-814.	1.6	78
16	Specificity and Heterogeneity of Terahertz Radiation Effect on Gene Expression in Mouse Mesenchymal Stem Cells. Scientific Reports, 2013, 3, 1184.	3.3	78
17	Temperature effects in a nonlinear model of monolayer Scheibe aggregates. Physical Review E, 1994, 49, 4627-4636.	2.1	77
18	Models for energy and charge transport and storage in biomolecules. Journal of Biological Physics, 1999, 25, 41-63.	1.5	76

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19	Non-thermal effects of terahertz radiation on gene expression in mouse stem cells. <i>Biomedical Optics Express</i> , 2011, 2, 2679.	2.9	73
20	Charge trapping in DNA due to intrinsic vibrational hot spots. <i>Journal of Chemical Physics</i> , 2003, 118, 3731-3735.	3.0	61
21	A nonlinear dynamic model of DNA with a sequence-dependent stacking term. <i>Nucleic Acids Research</i> , 2009, 37, 2405-2410.	14.5	61
22	DNA dynamics play a role as a basal transcription factor in the positioning and regulation of gene transcription initiation. <i>Nucleic Acids Research</i> , 2010, 38, 1790-1795.	14.5	59
23	Nonlinear excitations in two-dimensional molecular structures with impurities. <i>Physical Review E</i> , 1995, 52, 2951-2962.	2.1	58
24	Solitonlike solutions of the generalized discrete nonlinear Schrödinger equation. <i>Physical Review E</i> , 1996, 54, 5788-5801.	2.1	57
25	Dynamics of breathers in discrete nonlinear Schrödinger models. <i>Physica D: Nonlinear Phenomena</i> , 1998, 119, 115-124.	2.8	52
26	Two-dimensional discrete breathers: Construction, stability, and bifurcations. <i>Physical Review E</i> , 2000, 61, 2006-2009.	2.1	50
27	Determination of the shear viscosity of the one-component plasma. <i>Physical Review E</i> , 2014, 90, 033105.	2.1	47
28	ac conductivity in a DNA charge transport model. <i>Physical Review E</i> , 2005, 72, 021912.	2.1	45
29	Bubble statistics and dynamics in double-stranded DNA. <i>Physical Review E</i> , 2006, 74, 050901.	2.1	45
30	Probing the Mechanical Unzipping of DNA. <i>Physical Review Letters</i> , 2006, 96, 248101.	7.8	44
31	Statistical mechanics of general discrete nonlinear Schrödinger models: Localization transition and its relevance for Klein-Gordon lattices. <i>Physical Review E</i> , 2004, 70, 066610.	2.1	43
32	Dynamics in discrete two-dimensional nonlinear Schrödinger equations in the presence of point defects. <i>Physical Review B</i> , 1996, 54, 900-912.	3.2	41
33	Polaron normal modes in the Peyrard-Bishop-Holstein model. <i>Physical Review B</i> , 2003, 68, .	3.2	40
34	Nonlinear excitations in DNA: polarons and bubbles. <i>Synthetic Metals</i> , 2004, 141, 93-97.	3.9	40
35	Nanoparticle-regulated phase behavior of ordered block copolymers. <i>Soft Matter</i> , 2008, 4, 1609.	2.7	40
36	DNA breathing dynamics distinguish binding from nonbinding consensus sites for transcription factor YY1 in cells. <i>Nucleic Acids Research</i> , 2012, 40, 10116-10123.	14.5	39

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37	Effect of nonlocal dispersion on self-interacting excitations. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1996, 222, 152-156.	2.1	38
38	Localized excitations in discrete nonlinear Schrödinger systems: Effects of nonlocal dispersive interactions and noise. <i>Physica D: Nonlinear Phenomena</i> , 1998, 113, 134-151.	2.8	38
39	Healing length and bubble formation in DNA. <i>Physical Review E</i> , 2006, 73, 051902.	2.1	37
40	Toward a Detailed Description of the Thermally Induced Dynamics of the Core Promoter. <i>PLoS Computational Biology</i> , 2009, 5, e1000313.	3.2	35
41	Localized excitations and their thresholds. <i>Physical Review E</i> , 2000, 61, 4652-4655.	2.1	34
42	Delocalizing Transition of Bose-Einstein Condensates in Optical Lattices. <i>Physical Review Letters</i> , 2002, 89, 030402.	7.8	33
43	Origins of Elastic Properties in Ordered Block Copolymer/Nanoparticle Composites. <i>Nano Letters</i> , 2004, 4, 2455-2459.	9.1	32
44	The influence of noise on critical collapse in the nonlinear Schrödinger equation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1995, 204, 121-127.	2.1	30
45	Lengthscales and cooperativity in DNA bubble formation. <i>Europhysics Letters</i> , 2006, 74, 540-546.	2.0	30
46	Localization in a nonlinear disordered system. <i>Europhysics Letters</i> , 1999, 47, 421-427.	2.0	29
47	Feigenbaum cascade of discrete breathers in a model of DNA. <i>Physical Review E</i> , 2011, 83, 011904.	2.1	29
48	Breatherlike excitations in discrete lattices with noise and nonlinear damping. <i>Physical Review B</i> , 1997, 55, 5759-5766.	3.2	26
49	Morphology and bridging properties of (AB) <sub>n</sub> multiblock copolymers. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2003, 41, 104-111.	2.1	26
50	Discrete nonlinear Schrödinger equations with arbitrarily high-order nonlinearities. <i>Physical Review E</i> , 2006, 74, 016607.	2.1	26
51	Solitary excitations in discrete two-dimensional nonlinear Schrödinger models with dispersive dipole-dipole interactions. <i>Physical Review B</i> , 1998, 57, 11303-11318.	3.2	25
52	Temperature-Dependent Signatures of Coherent Vibrational Openings in DNA. <i>Nano Letters</i> , 2004, 4, 629-632.	9.1	25
53	Profiling the Thermodynamic Softness of Adenoviral Promoters. <i>Biophysical Journal</i> , 2008, 95, 597-608.	0.5	25
54	Pre-melting dynamics of DNA and its relation to specific functions. <i>Journal of Physics Condensed Matter</i> , 2009, 21, 034107.	1.8	25

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55	Switching between bistable states in a discrete nonlinear model with long-range dispersion. <i>Physical Review E</i> , 1998, 57, 4739-4742.	2.1	24
56	Stress Distributions in Diblock Copolymers. <i>Physical Review Letters</i> , 2007, 99, 048302.	7.8	23
57	Dendrimers as synthetic gene vectors: Cell membrane attachment. <i>Journal of Chemical Physics</i> , 2009, 130, 155101.	3.0	23
58	Binding of Nucleoid-Associated Protein Fis to DNA Is Regulated by DNA Breathing Dynamics. <i>PLoS Computational Biology</i> , 2013, 9, e1002881.	3.2	23
59	Non-exponential decay of base-pair opening fluctuations in DNA. <i>Chemical Physics Letters</i> , 2006, 432, 291-295.	2.6	22
60	Ordering mechanisms in triblock copolymers. <i>Physical Review E</i> , 2004, 69, 031801.	2.1	20
61	Elastic moduli of multiblock copolymers in the lamellar phase. <i>Journal of Chemical Physics</i> , 2004, 120, 3990-3996.	3.0	19
62	Promoter polymorphisms in two overlapping 6p25 genes implicate mitochondrial proteins in cognitive deficit in schizophrenia. <i>Molecular Psychiatry</i> , 2012, 17, 1328-1339.	7.9	19
63	Breatherlike impurity modes in discrete nonlinear lattices. <i>Physical Review E</i> , 1995, 52, R4628-R4631.	2.1	18
64	Sequencing DNA by Dynamic Force Spectroscopy: Limitations and Prospects. <i>Nano Letters</i> , 2006, 6, 1483-1486.	9.1	18
65	Allostery through protein-induced DNA bubbles. <i>Scientific Reports</i> , 2015, 5, 9037.	3.3	18
66	Comment on "Can One Predict DNA Transcription Start Sites by Studying Bubbles?". <i>Physical Review Letters</i> , 2006, 96, 239801; author reply 239802.	7.8	17
67	Collapse of solitary excitations in the nonlinear Schrödinger equation with nonlinear damping and white noise. <i>Physical Review E</i> , 1996, 54, 924-930.	2.1	16
68	Two-dimensional effects in nonlinear Kronig-Penney models. <i>Physical Review B</i> , 1997, 55, R13365-R13368.	3.2	16
69	Multipeaked polarons in soft potentials. <i>Physical Review E</i> , 2004, 70, 025601.	2.1	16
70	Dynamics of nonlinear localized states on finite discrete chains. <i>Physical Review E</i> , 1997, 55, 6151-6154.	2.1	15
71	Local electronic structure in the Peyrard-Bishop-Holstein model. <i>Journal of Physics Condensed Matter</i> , 2007, 19, 136203.	1.8	15
72	Electrodynamic properties of coplanar waveguides made from high-temperature superconducting YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7</sub> electrodes on nonlinear dielectric SrTiO <sub>3</sub> substrates. <i>Journal of Applied Physics</i> , 1999, 86, 1558-1568.	2.5	14

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73	Stabilization of nonlinear excitations by disorder. <i>Physical Review B</i> , 1997, 56, 14407-14413.	3.2	13
74	Spontaneous pattern formation in driven nonlinear lattices. <i>Physical Review E</i> , 2000, 62, 7353-7357.	2.1	13
75	Molecularly Asymmetric Triblock Copolymers as a Single-Molecule Route to Ordered Bidisperse Polymer Brushes. <i>Langmuir</i> , 2006, 22, 6465-6468.	3.5	13
76	Evaluating the role of coherent delocalized phonon-like modes in DNA cyclization. <i>Scientific Reports</i> , 2017, 7, 9731.	3.3	13
77	Driving and collapse in a nonlinear SchrÅdinger equation. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1994, 184, 241-244.	2.1	11
78	The Janus Character of Heterogeneous Dendritic Nanoparticles. <i>Macromolecules</i> , 2011, 44, 1046-1052.	4.8	11
79	Statistical mechanics of a discrete SchrÅdinger equation with saturable nonlinearity. <i>Physical Review E</i> , 2013, 87, 044901.	2.1	10
80	Dipole-like nonlinear excitations in an inhomogeneous two-dimensional system. <i>Physics Letters, Section A: General, Atomic and Solid State Physics</i> , 1995, 203, 175-180.	2.1	9
81	Pulse shaping using nonlinear dielectric SrTiO <sub>3</sub> . <i>Applied Physics Letters</i> , 1999, 74, 1770-1772.	3.3	9
82	Parametric Quantum Resonances for Bose-Einstein Condensates. <i>Journal of Low Temperature Physics</i> , 2000, 120, 205-212.	1.4	9
83	Comparison of one-dimensional and two-dimensional discrete breathers. <i>Mathematics and Computers in Simulation</i> , 2001, 55, 449-462.	4.4	9
84	Localization in physical systems described by discrete nonlinear SchrÅdinger-type equations. <i>Chaos</i> , 2003, 13, 588-595.	2.5	9
85	Opening rates of DNA hairpins: Experiment and model. <i>Physical Review E</i> , 2007, 76, 011909.	2.1	9
86	Soliton motion in a parametrically ac-driven damped Toda lattice. <i>Physical Review E</i> , 1998, 58, 6695-6699.	2.1	8
87	Nonnegative tensor decomposition with custom clustering for microphase separation of block copolymers. <i>Statistical Analysis and Data Mining</i> , 2019, 12, 302-310.	2.8	8
88	DNA Dynamics Is Likely to Be a Factor in the Genomic Nucleotide Repeats Expansions Related to Diseases. <i>PLoS ONE</i> , 2011, 6, e19800.	2.5	8
89	The temperature-dependent collapse regime in a nonlinear dynamical model of Scheibe aggregates. <i>Physica D: Nonlinear Phenomena</i> , 1995, 87, 321-324.	2.8	7
90	Tunable nanopatterning by diblock copolymers in small confinements. <i>Journal of Polymer Science, Part B: Polymer Physics</i> , 2004, 42, 3695-3700.	2.1	7

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91	Bidirectional mapping between self-consistent field theory and molecular dynamics: Application to immiscible homopolymer blends. <i>Journal of Chemical Physics</i> , 2007, 127, 144901.	3.0	7
92	Staggered and short-period solutions of the saturable discrete nonlinear SchrÅdinger equation. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2009, 42, 085002.	2.1	7
93	The role of structural parameters in DNA cyclization. <i>BMC Bioinformatics</i> , 2016, 17, 68.	2.6	7
94	Increased irrigation water salinity enhances nitrate transport to deep unsaturated soil. <i>Vadose Zone Journal</i> , 2020, 19, e20041.	2.2	7
95	Nonlinear and stochastic modelling of energy transfer in Scheibe aggregates. <i>Mathematics and Computers in Simulation</i> , 1996, 40, 339-358.	4.4	6
96	Creation and annihilation of intrinsic localized excitations. <i>Physical Review E</i> , 1998, 58, R40-R43.	2.1	6
97	Higher-order effects on Shapiro steps in Josephson junctions. <i>Physical Review B</i> , 1999, 59, 58-61.	3.2	6
98	Hysteresis and metastability in the quenched turbulent dynamics of the complex Ginzburg-Landau equation. <i>Physical Review E</i> , 2001, 65, 016122.	2.1	6
99	Nonlinearity in DNA and its Relation to Specific Functions. <i>Journal of Biological Physics</i> , 2009, 35, 31-41.	1.5	6
100	Identification of anomalous diffusion sources by unsupervised learning. <i>Physical Review Research</i> , 2020, 2, .	3.6	5
101	Exact solutions of the two-dimensional discrete nonlinear SchrÅdinger equation with saturable nonlinearity. <i>Journal of Physics A: Mathematical and Theoretical</i> , 2010, 43, 375209.	2.1	4
102	Controlling the phase behavior of block copolymers via sequential block growth. <i>Polymer</i> , 2010, 51, 5304-5308.	3.8	4
103	Describing nonequilibrium soft matter with mean field game theory. <i>Journal of Chemical Physics</i> , 2019, 150, 174905.	3.0	4
104	On dynamics of ferroelastic transitions. <i>European Physical Journal Special Topics</i> , 2003, 112, 195-199.	0.2	3
105	Comparative study of broadband electrodynamic properties of single-crystal and thin-film strontium titanate. <i>Applied Physics Letters</i> , 1999, 75, 4189-4191.	3.3	2
106	AresetÅal.Reply:. <i>Physical Review Letters</i> , 2009, 102, .	7.8	2
107	Ordering and Reverse Ordering Mechanisms of Triblock Copolymers in the Presence of Solvent. <i>International Journal of Molecular Sciences</i> , 2009, 10, 805-816.	4.1	2
108	The Transfer Integral Operator Method in the Study of DNA Unzipping and Bubble Formation. <i>Journal of Nonlinear Mathematical Physics</i> , 2011, 18, 381.	1.3	2

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109	Exact solutions of a two-dimensional cubicâ€“quintic discrete nonlinear SchrÃ¶dinger equation. Physica Scripta, 2011, 84, 065001.	2.5	2
110	Anharmonic dynamics of intramolecular hydrogen bonds driven by DNA breathing. Physical Review E, 2012, 86, 061913.	2.1	2
111	Nanoscale distribution and segregation of midblock-selective co-penetrants in ABA triblock copolymer lamellae. RSC Advances, 2013, 3, 22863.	3.6	2
112	Effective Potential Theory: A Practical Way to Extend Plasma Transport Theory to Strong Coupling. Contributions To Plasma Physics, 2015, 55, 209-214.	1.1	2
113	Effective particle size from molecular dynamics simulations in fluids. Theoretical and Computational Fluid Dynamics, 2018, 32, 215-233.	2.2	2
114	The self-assembly of particles with isotropic interactions. Journal of Physics Condensed Matter, 2013, 25, 325101.	1.8	1
115	Electrodynamic properties of single-crystal and thin-film strontium titanate. Integrated Ferroelectrics, 2000, 28, 193-200.	0.7	0
116	Thermally induced coherent vibrations in DNA. , 2004, , .		0
117	Modeling non-equilibrium morphologies in specific polymeric materials. Journal of Polymer Science, Part B: Polymer Physics, 2006, 44, 2605-2611.	2.1	0