

Bela M Mulder

List of Publications by Year in descending order

Source: <https://exaly.com/author-pdf/6520872/publications.pdf>

Version: 2024-02-01

111
papers

5,111
citations

76196
40
h-index

98622
67
g-index

119
all docs

119
docs citations

119
times ranked

3480
citing authors

#	ARTICLE	IF	CITATIONS
1	Frustration-induced complexity in order-disorder transitions of the J_1 -Ising model on the square lattice. Physical Review E, 2022, 106, .		
2	A plausible mechanism for longitudinal lock-in of the plant cortical microtubule array after light-induced reorientation. Quantitative Plant Biology, 2021, 2, .	0.8	5
3	What is quantitative plant biology?. Quantitative Plant Biology, 2021, 2, .	0.8	43
4	Towards a synthetic cell cycle. Nature Communications, 2021, 12, 4531.	5.8	53
5	Forced apart: a microtubule-based mechanism for equidistant positioning of multiple nuclei in single cells. European Physical Journal Plus, 2021, 136, 1.	1.2	1
6	Poroelasticity of (bio)polymer networks during compression: theory and experiment. Soft Matter, 2020, 16, 1298-1305.	1.2	22
7	Microtubule-based actin transport and localization in a spherical cell. Royal Society Open Science, 2020, 7, 201730.	1.1	4
8	Critical threshold for microtubule amplification through templated severing. Physical Review E, 2020, 101, 052405.	0.8	8
9	Confinement and crowding control the morphology and dynamics of a model bacterial chromosome. Soft Matter, 2019, 15, 2677-2687.	1.2	11
10	Impact of crowders on the morphology of bacterial chromosomes. Europhysics Letters, 2019, 128, 68003.	0.7	3
11	Colloidal Liquid Crystals Confined to Synthetic Tactoids. Scientific Reports, 2019, 9, 20391.	1.6	16
12	CLASP stabilization of plus ends created by severing promotes microtubule creation and reorientation. Journal of Cell Biology, 2019, 218, 190-205.	2.3	52
13	From plasmodesma geometry to effective symplasmic permeability through biophysical modelling. ELife, 2019, 8, .	2.8	25
14	SPR2 protects minus ends to promote severing and reorientation of plant cortical microtubule arrays. Journal of Cell Biology, 2018, 217, 915-927.	2.3	77
15	Modelling the Plant Microtubule Cytoskeleton. , 2018, , 53-67.		0
16	Molecular Dynamics Simulation of a Feather-Boa Model of a Bacterial Chromosome. Methods in Molecular Biology, 2018, 1837, 403-415.	0.4	10
17	A graph-based algorithm for the multi-objective optimization of gene regulatory networks. European Journal of Operational Research, 2018, 270, 784-793.	3.5	3
18	Scratching a 50-year itch with elongated rods. Molecular Physics, 2018, 116, 2742-2756.	0.8	1

#	ARTICLE	IF	CITATIONS
19	A computational framework for cortical microtubule dynamics in realistically shaped plant cells. PLoS Computational Biology, 2018, 14, e1005959.	1.5	39
20	How selective severing by katanin promotes order in the plant cortical microtubule array. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 6942-6947.	3.3	56
21	The Landau-de Gennes approach revisited: A minimal self-consistent microscopic theory for spatially inhomogeneous nematic liquid crystals. Journal of Chemical Physics, 2017, 147, 244505.	1.2	5
22	A microtubule-based minimal model for spontaneous and persistent spherical cell polarity. PLoS ONE, 2017, 12, e0184706.	1.1	6
23	Finite particle size drives defect-mediated domain structures in strongly confined colloidal liquid crystals. Nature Communications, 2016, 7, 12112.	5.8	47
24	Self-healing microtubules. Nature Materials, 2015, 14, 1080-1081.	13.3	9
25	Defect structures mediate the isotropic-nematic transition in strongly confined liquid crystals. Soft Matter, 2015, 11, 608-614.	1.2	26
26	Efficient event-driven simulations shed new light on microtubule organization in the plant cortical array. Frontiers in Physics, 2014, 2, .	1.0	21
27	The Effect of Anisotropic Microtubule-Bound Nucleations on Ordering in the Plant Cortical Array. Bulletin of Mathematical Biology, 2014, 76, 2907-2922.	0.9	6
28	Colloidal liquid crystals in rectangular confinement: theory and experiment. Soft Matter, 2014, 10, 7865-7873.	1.2	62
29	Alignment of nematic and bundled semiflexible polymers in cell-sized confinement. Soft Matter, 2014, 10, 2354-2364.	1.2	44
30	Microtubule networks for plant cell division. Systems and Synthetic Biology, 2014, 8, 187-194.	1.0	24
31	A Mechanism for Reorientation of Cortical Microtubule Arrays Driven by Microtubule Severing. Science, 2013, 342, 1245533.	6.0	264
32	Modelling the role of microtubules in plant cell morphology. Current Opinion in Plant Biology, 2013, 16, 688-692.	3.5	49
33	Cortical Microtubule Arrays Are Initiated from a Nonrandom Prepattern Driven by Atypical Microtubule Initiation. Plant Physiology, 2013, 161, 1189-1201.	2.3	33
34	Modeling a Cortical Auxin Maximum for Nodulation: Different Signatures of Potential Strategies. Frontiers in Plant Science, 2012, 3, 96.	1.7	44
35	Spontaneous Helicity of a Polymer with Side Loops Confined to a Cylinder. Physical Review Letters, 2012, 108, 268305.	2.9	23
36	Microtubules interacting with a boundary: Mean length and mean first-passage times. Physical Review E, 2012, 86, 011902.	0.8	17

#	ARTICLE	IF	CITATIONS
37	Self-organized patterns of actin filaments in cell-sized confinement. <i>Soft Matter</i> , 2011, 7, 10631.	1.2	78
38	Self-regulation in tip-growth: The role of cell wall ageing. <i>Journal of Theoretical Biology</i> , 2011, 283, 113-121.	0.8	25
39	Size and shape of excluded volume polymers confined between parallel plates. <i>Physical Review E</i> , 2011, 83, 031803.	0.8	16
40	Taking directions: the role of microtubule-bound nucleation in the self-organization of the plant cortical array. <i>Physical Biology</i> , 2011, 8, 056002.	0.8	50
41	On the Robustness of the Geometrical Model for Cell Wall Deposition. <i>Bulletin of Mathematical Biology</i> , 2010, 72, 869-895.	0.9	2
42	Survival of the Aligned: Ordering of the Plant Cortical Microtubule Array. <i>Physical Review Letters</i> , 2010, 104, 058103.	2.9	63
43	Microtubule length distributions in the presence of protein-induced severing. <i>Physical Review E</i> , 2010, 81, 031910.	0.8	18
44	Designing colloidal ground-state patterns using short-range isotropic interactions. <i>Physical Review E</i> , 2010, 82, 021404.	0.8	9
45	Model for the orientational ordering of the plant microtubule cortical array. <i>Physical Review E</i> , 2010, 82, 011911.	0.8	50
46	Non-specific interactions are sufficient to explain the position of heterochromatic chromocenters and nucleoli in interphase nuclei. <i>Nucleic Acids Research</i> , 2009, 37, 3558-3568.	6.5	75
47	Modeling Tip Growth: Pushing Ahead. <i>Plant Cell Monographs</i> , 2009, , 103-122.	0.4	6
48	Modeling Tip Growth: Pushing Ahead. <i>Plant Cell Monographs</i> , 2009, , 103.	0.4	2
49	Rates of exocytosis and endocytosis in <i>Arabidopsis</i> root hairs and pollen tubes. <i>Journal of Microscopy</i> , 2008, 231, 265-273.	0.8	84
50	Sphere size distributions from finite thickness sections: a forward approach employing a genetic algorithm. <i>Journal of Microscopy</i> , 2008, 231, 257-264.	0.8	2
51	Cellulose microfibril deposition: coordinated activity at the plant plasma membrane. <i>Journal of Microscopy</i> , 2008, 231, 192-200.	0.8	30
52	On Growth and Force. <i>Science</i> , 2008, 322, 1643-1644.	6.0	7
53	Microtubules and cellulose microfibrils: how intimate is their relationship?. <i>Trends in Plant Science</i> , 2007, 12, 279-281.	4.3	52
54	Microtubule Organization in Three-Dimensional Confined Geometries: Evaluating the Role of Elasticity Through a Combined In Vitro and Modeling Approach. <i>Biophysical Journal</i> , 2007, 92, 1046-1057.	0.2	64

#	ARTICLE	IF	CITATIONS
55	The Cellulose Synthase Complex: A Polymerization Driven Supramolecular Motor. Biophysical Journal, 2007, 92, 2666-2673.	0.2	87
56	Hard Convex Body Fluids. Advances in Chemical Physics, 2007, , 1-166.	0.3	205
57	Interfacial wetting in the 4-state Potts model: A cluster approach. Physica A: Statistical Mechanics and Its Applications, 2007, 375, 537-545.	1.2	0
58	The diffusive vesicle supply center model for tip growth in fungal hyphae. Journal of Theoretical Biology, 2006, 238, 937-948.	0.8	41
59	Isotropic-to-nematic transition in liquid-crystalline heteropolymers: II. Side-chain liquid-crystalline polymers. Journal of Physics Condensed Matter, 2006, 18, 9359-9374.	0.7	1
60	Isotropic-to-nematic transition in liquid-crystalline heteropolymers: I. Formalism and main-chain liquid-crystalline polymers. Journal of Physics Condensed Matter, 2006, 18, 9335-9357.	0.7	9
61	Designing ordered DNA-linked nanoparticle assemblies. Journal of Physics Condensed Matter, 2006, 18, S567-S580.	0.7	29
62	Entropy-driven spatial organization of highly confined polymers: Lessons for the bacterial chromosome. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 12388-12393.	3.3	350
63	Continuum Description of the Cytoskeleton: Ring Formation in the Cell Cortex. Physical Review Letters, 2005, 95, 258103.	2.9	49
64	Monte Carlo study of hard pentagons. Physical Review E, 2005, 71, 036138.	0.8	80
65	The excluded volume of hard sphero-zonotopes. Molecular Physics, 2005, 103, 1411-1424.	0.8	46
66	Entropy-induced microphase separation in hard diblock copolymers. Physical Review E, 2004, 70, 031503.	0.8	11
67	Cubatic phase for tetrapods. Journal of Chemical Physics, 2004, 120, 5486-5492.	1.2	31
68	How the geometrical model for plant cell wall formation enables the production of a random texture. Cellulose, 2004, 11, 395-401.	2.4	17
69	Nematic Homopolymers: From Segmented to Wormlike Chains. Soft Materials, 2003, 1, 313-342.	0.8	13
70	Continuous crossover from oblate to prolate backbone conformations in nematic side-chain polymers. Europhysics Letters, 2003, 64, 337-343.	0.7	3
71	The hard ellipsoid-of-revolution fluid I. Monte Carlo simulations. Molecular Physics, 2002, 100, 201-217.	0.8	37
72	Quantitative Analysis of Copolymers: Influence of the Structure of the Monomer on the Ionization Efficiency in Electrospray Ionization FTMS. Macromolecules, 2002, 35, 4919-4928.	2.2	12

#	ARTICLE	IF	CITATIONS
73	Force generation by polymerizing microtubules. Applied Physics A: Materials Science and Processing, 2002, 75, 331-336.	1.1	23
74	The Geometrical Model for Microfibril Deposition and the Influence of the Cell Wall Matrix. Plant Biology, 2002, 4, 22-26.	1.8	13
75	A closer look at crystallization of parallel hard cubes. Journal of Chemical Physics, 2001, 114, 3653-3658.	1.2	22
76	A dynamical model for plant cell wall architecture formation. Journal of Mathematical Biology, 2001, 42, 261-289.	0.8	33
77	On the stall force for growing microtubules. European Biophysics Journal, 2000, 29, 2-6.	1.2	71
78	Hard-sphere solids near close packing: Testing theories for crystallization. Physical Review E, 2000, 61, 3811-3822.	0.8	30
79	How the deposition of cellulose microfibrils builds cell wall architecture. Trends in Plant Science, 2000, 5, 35-40.	4.3	127
80	Do cylinders exhibit a cubatic phase?. Journal of Chemical Physics, 1999, 110, 11652-11659.	1.2	59
81	Why all crystals need not be bcc: Symmetry breaking at the liquid-solid transition revisited. Physical Review E, 1999, 59, 5613-5620.	0.8	34
82	Phase behavior of binary mixtures of thick and thin hard rods. Physica A: Statistical Mechanics and Its Applications, 1998, 261, 374-390.	1.2	66
83	Anchoring Transitions of Nematic Liquid Crystals in a Lattice Model. Molecular Crystals and Liquid Crystals, 1998, 323, 97-112.	0.3	0
84	RESEARCH NOTE Virial coefficients of Onsager crosses. Molecular Physics, 1998, 94, 401-405.	0.8	2
85	Biaxial Nematic Order in the Hard-boomerang Fluid. Molecular Crystals and Liquid Crystals, 1998, 323, 167-189.	0.3	113
86	Phase diagram of Onsager crosses. Physical Review E, 1998, 58, 5873-5884.	0.8	35
87	The making of the architecture of the plant cell wall: How cells exploit geometry. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 7215-7219.	3.3	90
88	Virial coefficients of Onsager crosses. Molecular Physics, 1998, 94, 401-405.	0.8	2
89	sComment on "Study of phase-separation dynamics by use of cell dynamical systems. In Modeling". Physical Review E, 1997, 55, 3789-3791.	0.8	19
90	Phase Behavior of Mixtures of Wormlike Micelles and Mixtures of Wormlike Micelles with Small Colloidal Particles. Journal of Physical Chemistry B, 1997, 101, 4839-4844.	1.2	5

#	ARTICLE	IF	CITATIONS
91	Phase behaviour of a symmetric binary mixture of hard rods. Journal of Chemical Physics, 1996, 105, 7727-7734.	1.2	17
92	Cell dynamics model of droplet formation in polymer-dispersed liquid crystals. Physical Review E, 1996, 53, 1805-1815.	0.8	16
93	Demixing versus ordering in hard-rod mixtures. Physical Review E, 1996, 54, 6430-6440.	0.8	62
94	Numerical simulation of thermally induced phase separation in polymer-dispersed liquid crystals. Journal of Chemical Physics, 1996, 105, 10145-10152.	1.2	8
95	Absence of high-density consolute point in nematic hard rod mixtures. Journal of Chemical Physics, 1996, 105, 11237-11245.	1.2	39
96	High-density scaling solution to the Onsager model of lyotropic nematics. Europhysics Letters, 1996, 34, 201-206.	0.7	17
97	Transverse interlayer order in lyotropic smectic liquid crystals. Physical Review E, 1995, 52, R1277-R1280.	0.8	79
98	Demixing in a hard rod-plate mixture. Journal De Physique II, 1994, 4, 1763-1769.	0.9	42
99	Onsager chains: Semi-flexible polymers revisited. Macromolecular Symposia, 1994, 81, 329-331.	0.4	2
100	Non-equivalence of ensembles in the ground state of a model with annealed bond impurities. Physica A: Statistical Mechanics and Its Applications, 1991, 174, 504-516.	1.2	1
101	Thermodynamics of a model with interacting annealed bond impurities on the Bethe lattice. Journal of Statistical Physics, 1991, 65, 423-444.	0.5	2
102	On the Landau bicritical point for hard biaxial particles. Liquid Crystals, 1990, 8, 527-532.	0.9	13
103	Isotropic-symmetry-breaking bifurcations in a class of liquid-crystal models. Physical Review A, 1989, 39, 360-370.	1.0	135
104	Origin magnetisation distribution of the site-diluted Ising model on a rooted Cayley tree. Journal of Physics A, 1989, 22, L913-L918.	1.6	0
105	Density-functional approach to smectic order in an aligned hard-rod fluid. Physical Review A, 1987, 35, 3095-3101.	1.0	136
106	Solution of the excluded volume problem for biaxial particles. Liquid Crystals, 1986, 1, 539-551.	0.9	54
107	The hard ellipsoid-of-revolution fluid. Molecular Physics, 1985, 55, 1193-1215.	0.8	120
108	The hard ellipsoid-of-revolution fluid. Molecular Physics, 1985, 55, 1171-1192.	0.8	457

#	ARTICLE	IF	CITATIONS
109	Phase Diagram of Hard Ellipsoids of Revolution. Molecular Crystals and Liquid Crystals, 1985, 123, 119-128.	0.9	35
110	Phase Diagram of a System of Hard Ellipsoids. Physical Review Letters, 1984, 52, 287-290.	2.9	294
111	A theory for nematic liquids with biaxial molecules. Physica A: Statistical Mechanics and Its Applications, 1982, 113, 145-167.	1.2	16