Cristiano Nisoli

List of Publications by Year
in descending order

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80 papers	3,533 citations	201674 27 h-index	133252 59 g-index
82 all docs	82 docs citations	82 times ranked	2089 citing authors

#	Article	IF	Citations
1	Artificial spin ice phase-change memory resistors. New Journal of Physics, 2022, 24, 023020.	2.9	8
2	Directed motion of liquid crystal skyrmions with oscillating fields. New Journal of Physics, 2022, 24, 033033.	2.9	2
3	Magnetic field dependent thermodynamic properties of square and quadrupolar artificial spin ice. Physical Review B, 2022, 105, .	3.2	4
4	Direct observation of a dynamical glass transition in a nanomagnetic artificial Hopfield network. Nature Physics, 2022, 18, 517-521.	16.7	17
5	Entropy-driven order in an array of nanomagnets. Nature Physics, 2022, 18, 706-712.	16.7	5
6	Skyrmion Spin Ice in Liquid Crystals. Physical Review Letters, 2021, 126, 047801.	7.8	17
7	Field-Induced Magnetic Monopole Plasma in Artificial Spin Ice. Physical Review X, 2021, 11, .	8.9	9
8	Ice, glass, and solid phases in artificial spin systems with quenched disorder. Applied Physics Letters, 2021, 118, 122407.	3.3	5
9	Artificial spin ice: Paths forward. Applied Physics Letters, 2021, 118, .	3.3	35
10	Putting a spin on metamaterials: Mechanical incompatibility as magnetic frustration. SciPost Physics, 2021, 10, .	4.9	6
11	Topologically protected steady cycles in an icelike mechanical metamaterial. Physical Review Research, 2021, 3, .	3.6	6
12	Qubit spin ice. Science, 2021, 373, 576-580.	12.6	36
13	On the degeneracy of spin ice graphs, and its estimate via the Bethe permanent. Proceedings of the Royal Society A: Mathematical, Physical and Engineering Sciences, 2021, 477, 20210108.	2.1	3
14	Tension-free Dirac strings and steered magnetic charges in 3D artificial spin ice. Npj Computational Materials, 2021, 7, .	8.7	7
15	The color of magnetic monopole noise. Europhysics Letters, 2021, 135, 57002.	2.0	5
16	Gauge-free duality in pure square spin ice: Topological currents and monopoles. AIP Advances, 2021, 11, .	1.3	1
17	String Phase in an Artificial Spin Ice. Nature Communications, 2021, 12, 6514.	12.8	9
18	Commensurate states and pattern switching via liquid crystal skyrmions trapped in a square lattice. Soft Matter, 2020, 16, 3338-3343.	2.7	21

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19	Topological order of the Rys F-model and its breakdown in realistic square spin ice: Topological sectors of Faraday loops. Europhysics Letters, 2020, 132, 47005.	2.0	10
20	The concept of spin ice graphs and a field theory for their charges. AIP Advances, 2020, 10, .	1.3	6
21	Logical gates embedding in artificial spin ice. New Journal of Physics, 2020, 22, 103052.	2.9	24
22	Equilibrium field theory of magnetic monopoles in degenerate square spin ice: Correlations, entropic interactions, and charge screening regimes. Physical Review B, 2020, 102, .	3.2	5
23	Quenched dynamics of artificial colloidal spin ice. Physical Review Research, 2020, 2, .	3.6	8
24	<i>Colloquium</i> : Ice rule and emergent frustration in particle ice and beyond. Reviews of Modern Physics, 2019, 91, .	45.6	46
25	Understanding thermal annealing of artificial spin ice. APL Materials, 2019, 7, .	5.1	28
26	Experimental and theoretical evidences for the ice regime in planar artificial spin ices. Journal of Physics Condensed Matter, 2019, 31, 025301.	1.8	10
27	Field-induced phase coexistence in an artificial spin ice. Nature Physics, 2019, 15, 191-195.	16.7	49
28	Unexpected Phenomenology in Particle-Based Ice Absent in Magnetic Spin Ice. Physical Review Letters, 2018, 120, 167205.	7.8	17
29	Inner Phases of Colloidal Hexagonal Spin Ice. Physical Review Letters, 2018, 120, 027204.	7.8	22
30	Topology by Design in Magnetic Nano-materials: Artificial Spin Ice. Springer Series in Solid-state Sciences, 2018, , 85-112.	0.3	3
31	Classical topological order in the kinetics of artificial spin ice. Nature Physics, 2018, 14, 723-727.	16.7	57
32	Write it as you like it. Nature Nanotechnology, 2018, 13, 5-6.	31.5	9
33	Frustration(s) and the Ice Rule: From Natural Materials to the Deliberate Design of Exotic Behaviors. Springer Series in Materials Science, 2018, , 57-99.	0.6	4
34	Ice rule fragility via topological charge transfer in artificial colloidal ice. Nature Communications, 2018, 9, 4146.	12.8	25
35	Understanding magnetotransport signatures in networks of connected permalloy nanowires. Physical Review B, 2017, 95, .	3.2	32
36	Deliberate exotic magnetism via frustration and topology. Nature Physics, 2017, 13, 200-203.	16.7	66

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37	Dynamic Control of Topological Defects in Artificial Colloidal Ice. Scientific Reports, 2017, 7, 651.	3.3	12
38	Emergent inequality and self-organized social classes in a network of power and frustration. PLoS ONE, 2017, 12, e0171832.	2.5	4
39	Nano-Ising. New Journal of Physics, 2016, 18, 021007.	2.9	5
40	Frustration by design. Physics Today, 2016, 69, 54-59.	0.3	52
41	Long-time behavior of the Ï‰â†’Î± transition in shocked zirconium: Interplay of nucleation and plastic deformation. Acta Materialia, 2016, 108, 138-142.	7.9	5
42	Emergent reduced dimensionality by vertex frustration in artificial spin ice. Nature Physics, 2016, 12, 162-165.	16.7	117
43	Direct visualization of memory effects in artificial spin ice. Physical Review B, 2015, 92, .	3.2	44
44	Topological solitons in helical strings. Physical Review E, 2015, 91, 062601.	2.1	1
45	Artificial spin ice: from scientific toy to material by design (Presentation Recording). Proceedings of SPIE, 2015, , .	0.8	0
46	Dumping topological charges on neighbors: ice manifolds for colloids and vortices. New Journal of Physics, 2014, 16, 113049.	2.9	19
47	Attractive Inverse Square Potential,<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mi>U</mml:mi><mml:mo stretchy="false">(</mml:mo><mml:mn>1</mml:mn><mml:mo) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 337 Td (stretchy="false"> Review Letters, 2014, 112, 070401.	7.8	15
48	Realizing three-dimensional artificial spin ice by stacking planar nano-arrays. Applied Physics Letters, 2014, 104, 013101.	3.3	44
49	The kinetics of the Ï‰ to Î± phase transformation in Zr, Ti: Analysis of data from shock-recovered samples and atomistic simulations. Acta Materialia, 2014, 77, 191-199.	7.9	40
50	Thermomechanical stability and mechanochemical response of DNA: A minimal mesoscale model. Journal of Chemical Physics, 2014, 141, 115101.	3.0	3
51	Emergent ice rule and magnetic charge screening from vertex frustration in artificial spin ice. Nature Physics, 2014, 10, 670-675.	16.7	141
52	Crystallites of magnetic charges in artificial spin ice. Nature, 2013, 500, 553-557.	27.8	197
53	<i>Colloquium</i>: Artificial spin ice: Designing and imaging magnetic frustration. Reviews of Modern Physics, 2013, 85, 1473-1490.	45.6	407
54	Quasi-one-dimensional thermal breakage. Physical Review E, 2013, 88, 042409.	2.1	0

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55	Degeneracy and Criticality from Emergent Frustration in Artificial Spin Ice. Physical Review Letters, 2013, 111, 177201.	7.8	45
56	Unhappy vertices in artificial spin ice: new degeneracies from vertex frustration. New Journal of Physics, 2013, 15, 045009.	2.9	95
57	Gibbsianizing nonequilibrium dynamics of artificial spin ice and other spin systems. New Journal of Physics, 2012, 14, 045009.	2.9	13
58	On thermalization of magnetic nano-arrays at fabrication. New Journal of Physics, 2012, 14, 035017.	2.9	32
59	Perpendicular Magnetization and Generic Realization of the Ising Model in Artificial Spin Ice. Physical Review Letters, 2012, 109, 087201.	7.8	58
60	Ignoring Your Neighbors: Moment Correlations Dominated by Indirect or Distant Interactions in an Ordered Nanomagnet Array. Physical Review Letters, 2011, 107, 117204.	7.8	18
61	Thermomechanics of DNA: Theory of Thermal Stability under Load. Physical Review Letters, 2011, 107, 068102.	7.8	11
62	Curvature-induced D-band Raman scattering in folded graphene. Journal of Physics Condensed Matter, 2010, 22, 334205.	1.8	25
63	Direct entropy determination and application to artificial spin ice. Nature Physics, 2010, 6, 786-789.	16.7	66
64	Effective Temperature in an Interacting Vertex System: Theory and Experiment on Artificial Spin Ice. Physical Review Letters, 2010, 105, 047205.	7.8	117
65	Comparing artificial frustrated magnets by tuning the symmetry of nanoscale permalloy arrays. Physical Review B, 2010, 81, .	3.2	62
66	Annealing a magnetic cactus into phyllotaxis. Physical Review E, 2010, 81, 046107.	2.1	15
67	Thermally Induced Local Failures in Quasi-One-Dimensional Systems: Collapse in Carbon Nanotubes, Necking in Nanowires, and Opening of Bubbles in DNA. Physical Review Letters, 2010, 104, 025503.	7.8	10
68	Publisherâ€™s Note: Thermally Induced Local Failures in Quasi-One-Dimensional Systems: Collapse in Carbon Nanotubes, Necking in Nanowires, and Opening of Bubbles in DNA [Phys. Rev. Lett.104, 025503 (2010)]. Physical Review Letters, 2010, 104, .	7.8	0
69	Comparing frustrated and unfrustrated clusters of single-domain ferromagnetic islands. Physical Review B, 2010, 82, .	3.2	24
70	Spiraling solitons: A continuum model for dynamical phyllotaxis of physical systems. Physical Review E, 2009, 80, 026110.	2.1	8
71	Thermal Stability of Strained Nanowires. Physical Review Letters, 2009, 102, 245504.	7.8	10
72	Polaron-induced deformations in carbon nanotubes studied using the bicontinuum model. Physical Review B, 2009, 80, .	3.2	3

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73	Static and Dynamical Phyllotaxis in a Magnetic Cactus. Physical Review Letters, 2009, 102, 186103.	7.8	20
74	Energy Minimization and ac Demagnetization in a Nanomagnet Array. Physical Review Letters, 2008, 101, 037205.	7.8	109
75	Tuning magnetic frustration of nanomagnets in triangular-lattice geometry. Applied Physics Letters, 2008, 93, 252504.	3.3	23
76	Carbon Nanostructures as an Electromechanical Bicontinuum. Physical Review Letters, 2007, 99, 045501.	7.8	16
77	Ground State Lost but Degeneracy Found: The Effective Thermodynamics of Artificial Spin Ice. Physical Review Letters, 2007, 98, 217203.	7.8	108
78	Demagnetization protocols for frustrated interacting nanomagnet arrays. Journal of Applied Physics, 2007, 101, 09J104.	2.5	66
79	Artificial â€˜spin iceâ€™ in a geometrically frustrated lattice of nanoscale ferromagnetic islands. Nature, 2006, 439, 303-306.	27.8	729
80	Chemically Doped Double-Walled Carbon Nanotubes: Cylindrical Molecular Capacitors. Physical Review Letters, 2003, 90, 257403.	7.8	112