Tom H Johansen

List of Publications by Year
in descending order

116 papers	2,876 citations	172457 29 h-index	189892 50 g-index
117 all docs	117 docs citations	117 times ranked	1759 citing authors

#	Article	IF	Citations
1	Colloquium: Experiments in vortex avalanches. Reviews of Modern Physics, 2004, 76, 471-487.	45.6	207
2	Very strong intrinsic flux pinning and vortex avalanches in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mrow><mml:mrow><mml:mo>(</mml:mo><mml:mrow><mml:mtext>Ba</mml:mtext><mml:mo>,</mml:mo><m single crystals. Physical Review B, 2010, 82, .	3.2	137
3	Dendritic and uniform flux jumps in superconducting films. Physical Review B, 2006, 73, .	3.2	117
4	Faraday rotation spectra of bismuth-substituted ferrite garnet films with in-plane magnetization. Physical Review B, 2001, 64, .	3.2	116
5	Onset of Dendritic Flux Avalanches in Superconducting Films. Physical Review Letters, 2006, 97, 077002.	7.8	110
6	Faraday rotation and sensitivity of (100) bismuth-substituted ferrite garnet films. Physical Review B, 2002, 66, .	3.2	93
7	Colloidal transport on magnetic garnet films. Physical Chemistry Chemical Physics, 2009, 11, 9615.	2.8	93
8	Dendritic flux patterns in MgB2films. Superconductor Science and Technology, 2001, 14, 726-728.	3.5	85
9	All-optical observation and reconstruction of spin wave dispersion. Nature Communications, 2017, 8, 15859.	12.8	80
10	Finger patterns produced by thermomagnetic instability in superconductors. Physical Review B, 2004, 70, .	3.2	75
11	Avalanche-driven fractal flux distributions in NbN superconducting films. Applied Physics Letters, 2005, 87, 042502.	3.3	70
12	Magneto-optical imaging setup for single vortex observation. Review of Scientific Instruments, 2003, 74, 141-146.	1.3	67
13	Dynamics and morphology of dendritic flux avalanches in superconducting films. Physical Review B, 2011, 84, .	3.2	65
14	Logarithmic relaxation in the levitation force in a magnetâ€highTcsuperconductor system. Applied Physics Letters, 1992, 60, 2294-2296.	3.3	56
15	Local threshold field for dendritic instability in superconductingMgB2films. Physical Review B, 2003, 67, .	3.2	56
16	Current-induced dendritic magnetic instability in superconducting MgB2 films. Applied Physics Letters, 2002, 80, 4588-4590.	3.3	55
17	Enhanced pinning in superconducting thin films with graded pinning landscapes. Applied Physics Letters, 2013, 102, .	3.3	53
18	Central Peak Position in Magnetization Loops of High-TcSuperconductors. Physical Review Letters, 1999, 82, 2947-2950.	7.8	48

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19	Vortex solid-solid transition in aBi1.6Pb0.4Sr2CaCu2O8+Î´crystal. Physical Review B, 2000, 62, 4058-4065.	3.2	48
20	Manipulation of vortices by magnetic domain walls. Applied Physics Letters, 2003, 82, 79-81.	3.3	48
21	Superconducting trapped-field magnets: Temperature and field distributions during pulsed-field activation. Journal of Applied Physics, 2002, 92, 6235-6240.	2.5	46
22	Criticalâ€state magnetization of typeâ€II superconductors in rectangular slab and cylinder geometries. Journal of Applied Physics, 1995, 77, 3945-3952.	2.5	43
23	Dendritic magnetic avalanches in carbon-free MgB2 thin films with and without a deposited Au layer. Applied Physics Letters, 2005, 87, 152501.	3.3	43
24	Frequency and wavenumber selective excitation of spin waves through coherent energy transfer from elastic waves. Physical Review B, 2018, 97, .	3.2	42
25	Controllable morphology of flux avalanches in microstructured superconductors. Physical Review B, 2014, 89, .	3.2	41
26	Theory for lateral stability and magnetic stiffness in a highâ€Tcsuperconductorâ€magnet levitation system. Journal of Applied Physics, 1993, 74, 4060-4065.	2.5	38
27	Size of flux jumps in superconducting films. Physical Review B, 2005, 72, .	3.2	36
28	Suppression of flux avalanches in superconducting films by electromagnetic braking. Applied Physics Letters, 2010, 96, .	3.3	33
29	Reentrant stability of superconducting films and the vanishing of dendritic flux instability. Physical Review B, 2007, 76, .	3.2	29
30	Dendritic flux instabilities in<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>YB</mml:mi><mml:msub><mml:mi mathvariant="normal">a</mml:mi><mml:mn>2</mml:mn></mml:msub><mml:mi mathvariant="normal">C</mml:mi><mml:msub><mml:mi mathvariant="normal">u</mml:mi><mml:mn>3</mml:mn></mml:msub><mml:msub><mml:mi mathvariant="normal">O</mml:mi><mml:mrow><mml:mn>7</mml:mn><mml:mo>âˆ’</mml:mo><mml:mi>x</mml:mi></mml:mrow></	3.2	29
31	Lateral force on a magnet placed above a planar YBa2Cu3Oxsuperconductor. Applied Physics Letters, 1991, 58, 179-181.	3.3	28
32	Nucleation and propagation of thermomagnetic avalanches in thin-film superconductors (Review) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50	0.6	28
33	Visualizing the ac magnetic susceptibility of superconducting films via magneto-optical imaging. Physical Review B, 2011, 84, .	3.2	27
34	Collective Directional Locking of Colloidal Monolayers on a Periodic Substrate. Physical Review Letters, 2020, 124, 058002.	7.8	27
35	Magneto-optical Indicator Garnet Films Grown by Metal-organic Decomposition Method. Journal of the Magnetics Society of Japan, 2008, 32, 150-153.	0.9	25
36	Investigation of the lateral magnetic force and stiffness between a highâ€Tc superconductor and magnet of rectangular shapes. Journal of Applied Physics, 1994, 75, 1667-1670.	2.5	23

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37	First Observation of Flux Avalanches in a-MoSi Superconducting Thin Films. IEEE Transactions on Applied Superconductivity, 2015, 25, 1-4.	1.7	23
38	Evidence for superior current carrying capability of iron pnictide tapes under hydrostatic pressure. Physical Review Materials, 2017, 1, .	2.4	23
39	Ray optics behavior of flux avalanche propagation in superconducting films. Physical Review B, 2015, 91, .	3.2	22
40	Mechanism for flux guidance by micrometric antidot arrays in superconducting films. Physical Review B, 2012, 85, .	3.2	21
41	Quantitative imaging of stray fields and magnetization distributions in hard magnetic element arrays. Journal of Applied Physics, 2007, 101, 083905.	2.5	20
42	Nanosecond voltage pulses from dendritic flux avalanches in superconducting NbN films. Applied Physics Letters, 2013, 102, .	3.3	20
43	Oscillatory regimes of the thermomagnetic instability in superconducting films. Physical Review B, 2016, 93, .	3.2	20
44	Flux penetration in a superconducting film partially capped with a conducting layer. Physical Review B, 2017, 95, .	3.2	20
45	Exact asymptotic behavior of magnetic stripe domain arrays. Physical Review B, 2013, 87, .	3.2	19
46	Cascade dynamics of thermomagnetic avalanches in superconducting films with holes. Physical Review B, 2015, 92, .	3.2	19
47	Computerâ€controlled highâ€resolution capacitance dilatometer/oven system: Design, instrumentation, and performance. Review of Scientific Instruments, 1986, 57, 1168-1174.	1.3	17
48	Dynamic colloidal sorting on a magnetic bubble lattice. Applied Physics Letters, 2008, 93, .	3.3	16
49	Conducting properties of In2O3:Sn thin films at low temperatures. Applied Physics A: Materials Science and Processing, 2014, 114, 957-964.	2.3	16
50	Limiting thermomagnetic avalanches in superconducting films by stop-holes. Applied Physics Letters, 2013, 103, 032604.	3.3	15
51	Scaling and exact solutions for the flux creep problem in a slab superconductor. Physical Review B, 2002, 65, .	3.2	14
52	Magneto-Optical Imaging of Superconductors for Liquid Hydrogen Applications. Journal of Superconductivity and Novel Magnetism, 2013, 26, 1499-1502.	1.8	14
53	Bidirectional particle transport and size selective sorting of Brownian particles in a flashing spatially periodic energy landscape. Physical Chemistry Chemical Physics, 2016, 18, 26353-26357.	2.8	14
54	Selective surface/interface characterization of thin garnet films by magnetization-induced second-harmonic generation. Physical Review B, 2004, 70, .	3.2	13

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55	Snell's law for spin waves at a 90Â° magnetic domain wall. Applied Physics Letters, 2020, 116, .	3.3	13
56	High Resolution Thermal Imaging of Hotspots in Superconducting Films. IEEE Transactions on Applied Superconductivity, 2007, 17, 3215-3218.	1.7	12
57	The Thermomagnetic Instability in Superconducting Films with Adjacent Metal Layer. Journal of Low Temperature Physics, 2013, 173, 303-326.	1.4	12
58	Metal frame as local protection of superconducting films from thermomagnetic avalanches. AIP Advances, 2016, 6, .	1.3	12
59	Controllable injector for local flux entry into superconducting films. Superconductor Science and Technology, 2016, 29, 095003.	3.5	12
60	A pendulum feedback system to measure the lateral force on a magnet placed above a highâ€Tc superconductor. Review of Scientific Instruments, 1990, 61, 3827-3829.	1.3	10
61	Magnetic Levitation With High-T c Superconducting Thin Films. Journal of Superconductivity and Novel Magnetism, 1998, 11, 519-524.	0.5	10
62	Reconfigurable atom chip on a transparent ferrite-garnet film. European Physical Journal D, 2005, 35, 81-85.	1.3	10
63	Thermo-magnetic stability of superconducting films controlled by nano-morphology. Applied Physics Letters, 2013, 102, 252601.	3.3	10
64	Substrate Influence on Dendritic Flux Instability in YBCO Thin Films. Journal of Superconductivity and Novel Magnetism, 2015, 28, 379-382.	1.8	10
65	Metamorphosis of discontinuity lines and rectification of magnetic flux avalanches in the presence of noncentrosymmetric pinning forces. Physical Review B, 2021, 103, .	3.2	10
66	Width-dependent upper threshold field for flux noise in MgB2 strips. Applied Physics Letters, 2007, 91, .	3.3	9
67	Magnetic flux avalanches in Nb/NbN thin films. Low Temperature Physics, 2020, 46, 365-371.	0.6	9
68	Fast and rewritable colloidal assembly via field synchronized particle swapping. Applied Physics Letters, 2014, 104, 174102.	3.3	8
69	Phase-resolved spin-wave tomography. Applied Physics Letters, 2018, 112, .	3.3	8
70	Instability of the magnetization reversal front in superconductors with a nonlinear anisotropic current-voltage characteristic. JETP Letters, 2002, 76, 291-294.	1.4	7
71	Quasi-One-Dimensional Intermittent Flux Behavior in Superconducting Films. Physical Review X, 2012, 2, .	8.9	7
72	Anisotropic thermomagnetic avalanche activity in field-cooled superconducting films. Physical Review B, 2017, 96, .	3.2	7

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73	180Â°-phase shift of magnetoelastic waves observed by phase-resolved spin-wave tomography. Applied Physics Letters, 2018, 112, .	3.3	7
74	Time-Resolved Imaging of Magnetoelastic Waves by the Cotton-Mouton Effect. Physical Review Applied, 2019, 11, .	3.8	7
75	New criticalâ€state model for magnetization of hard typeâ€II superconductors. Journal of Applied Physics, 1994, 76, 8001-8004.	2.5	6
76	Spatially resolved studies of chemical composition, critical temperature, and critical current density of a YBa2Cu3O7â^'Î´ thin film. Journal of Applied Physics, 1998, 84, 5089-5096.	2.5	6
77	Detection of magnetic data using a magnetooptic indicator. Journal of Applied Physics, 2002, 92, 543-548.	2.5	6
78	The instability of the front of magnetization reversal in anisotropic superconductors. Journal of Experimental and Theoretical Physics, 2002, 95, 768-776.	0.9	6
79	Trapping Flux Avalanches in Nb Films by Circular Stop-Holes of Different Size. IEEE Transactions on Applied Superconductivity, 2015, 25, 1-4.	1.7	6
80	Energy of dendritic avalanches in thin-film superconductors. AIP Advances, 2018, 8, 085128.	1.3	6
81	Regulating wave front dynamics from the strongly discrete to the continuum limit in magnetically driven colloidal systems. Scientific Reports, 2016, 6, 19932.	3.3	5
82	A Tunable Magnetic Domain Wall Conduit Regulating Nanoparticle Diffusion. Nano Letters, 2016, 16, 5169-5175.	9.1	5
83	Origin of magnetic flux-jumps in Nb films subject to mechanical vibrations and corresponding magnetic perturbations. Physical Review B, 2018, 97, .	3.2	5
84	Imaging Flux Avalanches in V$_3$Si Superconducting Thin Films. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-4.	1.7	5
85	Critical state magnetization of hard type-II superconductors with rectangular and cylindrical cross-sections. Journal of Superconductivity and Novel Magnetism, 1997, 10, 151-158.	0.5	4
86	Modelling the Anomalous Low Field Peak Position in Bi-2223 Tapes. Physica Status Solidi A, 1998, 167, R1-R2.	1.7	4
87	Symmetry of the remanent-state flux distribution in superconducting thin strips: Probing the critical state. Physical Review B, 2001, 63, .	3.2	4
88	Permanent magnet systems with strong stray magnetic fields and very high gradients for material separation. Physica Status Solidi (A) Applications and Materials Science, 2006, 203, 1556-1560.	1.8	4
89	All-optical reversible switching of local magnetization. Applied Physics Letters, 2007, 91, 041916.	3.3	4
90	Large domain walls near crack lines in ferrimagnetic garnet films. Physical Review B, 2008, 77, .	3.2	4

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91	Temperature Dependence of the Flux Jump Upper Threshold Field in MgB2 Thin Films. Journal of the Physical Society of Japan, 2008, 77, 104717.	1.6	4
92	Development of macroturbulent instability in a YBCO single crystal. Low Temperature Physics, 2009, 35, 627-631.	0.6	4
93	Evidence of Rouse-like dynamics in magnetically ratchetting colloidal chains. Soft Matter, 2011, 7, 7944.	2.7	4
94	A new approach to the inverse problem for current mapping in thin-film superconductors. Journal of Applied Physics, 2018, 123, 123906.	2.5	4
95	Anisotropic Flux Penetration in Superconducting Nb Films With Frozen-in In-plane Magnetic Fields. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-5.	1.7	4
96	Scaling Behavior of Quasi-One-Dimensional Vortex Avalanches in Superconducting Films. Scientific Reports, 2020, 10, 5641.	3.3	4
97	Enhancing the effective critical current density in a Nb superconducting thin film by cooling in an inhomogeneous magnetic field. Applied Physics Letters, 2021, 119, .	3.3	4
98	Superconducting Properties and Electron Scattering Mechanisms in a Nb Film with a Single Weak-Link Excavated by Focused Ion Beam. Materials, 2021, 14, 7274.	2.9	4
99	Instability of the Critical State in NdBa2Cu3O7?? Single Crystals. Physica Status Solidi (B): Basic Research, 1999, 215, R11-R12.	1.5	3
100	SQUID and Magneto-Optic Investigations of Flux Turbulence in the Critical State. Journal of Superconductivity and Novel Magnetism, 2002, 15, 153-157.	0.5	3
101	Magnetic field visualization of magnetic minerals and grain boundary regions using magneto-optical imaging. Journal of Geophysical Research, 2007, 112, .	3.3	3
102	Flux distribution in Fe-based superconducting materials by magneto-optical imaging. Journal of Applied Physics, 2012, 111, 07E143.	2.5	3
103	Spin texture on top of flux avalanches in Nb/Al2O3/Co thin film heterostructures. Journal of Applied Physics, 2017, 121, 013905.	2.5	3
104	Computerized analysis of thermal correlations using Peltier ac heating. Journal of Applied Physics, 1986, 60, 2754-2761.	2.5	2
105	Magnetic Flux Penetration into Polycrystalline Superconducting (Bi,Pb)₂Sr₂Ca₂Cu₃O_{10 + x}Ceramics Containing Additions of Inorganic Compounds. Inorganic Materials, 2003, 39, S113-S120.	0.8	2
106	Superconductivity in an anomalously tetragonalYBa2Cu3O6.62single crystal: A possible singularity in the structural phase diagram. Physical Review B, 2003, 67, .	3.2	2
107	Manipulation of paramagnetic particles using a nanoscale asymmetric magnetic potential. Applied Physics Letters, 2008, 93, 042516.	3.3	2
108	Intermittent Flux Penetration at Different Temperatures inÂYBa2Cu3O7âˆ’x on NdGaO3 Substrates. Journal of Superconductivity and Novel Magnetism, 2011, 24, 179-181.	1.8	2

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109	Transparency of Planar Interfaces in Superconductors: A Critical-State Analysis. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-4.	1.7	2
110	Instability of the Vortex-Antivortex System in Anisotropic Hard Superconductors with Nonlinear Current-Voltage Characteristics. Modern Physics Letters B, 2003, 17, 589-595.	1.9	1
111	Flux Distribution at the Cross Section of Stacked Nanostructured Magnetic Ribbon. IEEE Transactions on Magnetics, 2009, 45, 3912-3914.	2.1	1
112	Modelling the Anomalous Low Field Peak Position in Bi-2223 Tapes. Physica Status Solidi A, 1998, 167, R1-R2.	1.7	1
113	Thermally active nanoparticle clusters enslaved by engineered domain wall traps. Nature Communications, 2021, 12, 5813.	12.8	1
114	Two-dimensional electron gas in an inhomogeneous magnetic field created by a high T c superconductor. European Physical Journal D, 1996, 46, 2521-2522.	0.4	0
115	UPPER THRESHOLD FIELDS OF DENDRITIC FLUX JUMPS IN GOLD-COATED MgB2 THIN FILMS. International Journal of Modern Physics B, 2007, 21, 3310-3313.	2.0	0
116	Optical Writing and Erasing of Magnetic Domain Patterns on a Ferrite-Garnet Film. Journal of the Magnetics Society of Japan, 2008, 32, 117-119.	0.9	0