

Tom H Johansen

List of Publications by Year in descending order

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116
papers

2,876
citations

172457

29
h-index

189892

50
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117
all docs

117
docs citations

117
times ranked

1759
citing authors

#	ARTICLE	IF	CITATIONS
1	Metamorphosis of discontinuity lines and rectification of magnetic flux avalanches in the presence of noncentrosymmetric pinning forces. <i>Physical Review B</i> , 2021, 103, .	3.2	10
2	Enhancing the effective critical current density in a Nb superconducting thin film by cooling in an inhomogeneous magnetic field. <i>Applied Physics Letters</i> , 2021, 119, .	3.3	4
3	Thermally active nanoparticle clusters enslaved by engineered domain wall traps. <i>Nature Communications</i> , 2021, 12, 5813.	12.8	1
4	Superconducting Properties and Electron Scattering Mechanisms in a Nb Film with a Single Weak-Link Excavated by Focused Ion Beam. <i>Materials</i> , 2021, 14, 7274.	2.9	4
5	Snell's law for spin waves at a 90° magnetic domain wall. <i>Applied Physics Letters</i> , 2020, 116, .	3.3	13
6	Collective Directional Locking of Colloidal Monolayers on a Periodic Substrate. <i>Physical Review Letters</i> , 2020, 124, 058002.	7.8	27
7	Magnetic flux avalanches in Nb/NbN thin films. <i>Low Temperature Physics</i> , 2020, 46, 365-371.	0.6	9
8	Scaling Behavior of Quasi-One-Dimensional Vortex Avalanches in Superconducting Films. <i>Scientific Reports</i> , 2020, 10, 5641.	3.3	4
9	Time-Resolved Imaging of Magnetoelastic Waves by the Cotton-Mouton Effect. <i>Physical Review Applied</i> , 2019, 11, .	3.8	7
10	Imaging Flux Avalanches in V ₃ Si Superconducting Thin Films. <i>IEEE Transactions on Applied Superconductivity</i> , 2019, 29, 1-4.	1.7	5
11	Transparency of Planar Interfaces in Superconductors: A Critical-State Analysis. <i>IEEE Transactions on Applied Superconductivity</i> , 2019, 29, 1-4.	1.7	2
12	Anisotropic Flux Penetration in Superconducting Nb Films With Frozen-in In-plane Magnetic Fields. <i>IEEE Transactions on Applied Superconductivity</i> , 2019, 29, 1-5.	1.7	4
13	Phase-resolved spin-wave tomography. <i>Applied Physics Letters</i> , 2018, 112, .	3.3	8
14	A new approach to the inverse problem for current mapping in thin-film superconductors. <i>Journal of Applied Physics</i> , 2018, 123, 123906.	2.5	4
15	Origin of magnetic flux-jumps in Nb films subject to mechanical vibrations and corresponding magnetic perturbations. <i>Physical Review B</i> , 2018, 97, .	3.2	5
16	Frequency and wavenumber selective excitation of spin waves through coherent energy transfer from elastic waves. <i>Physical Review B</i> , 2018, 97, .	3.2	42
17	Energy of dendritic avalanches in thin-film superconductors. <i>AIP Advances</i> , 2018, 8, 085128.	1.3	6
18	180°-phase shift of magnetoelastic waves observed by phase-resolved spin-wave tomography. <i>Applied Physics Letters</i> , 2018, 112, .	3.3	7

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19	Nucleation and propagation of thermomagnetic avalanches in thin-film superconductors (Review) Tj ETQq1 1 0.784314 rgBT _J /Overlo	0.6	28
20	Spin texture on top of flux avalanches in Nb/Al ₂ O ₃ /Co thin film heterostructures. Journal of Applied Physics, 2017, 121, 013905.	2.5	3
21	All-optical observation and reconstruction of spin wave dispersion. Nature Communications, 2017, 8, 15859.	12.8	80
22	Anisotropic thermomagnetic avalanche activity in field-cooled superconducting films. Physical Review B, 2017, 96, .	3.2	7
23	Flux penetration in a superconducting film partially capped with a conducting layer. Physical Review B, 2017, 95, .	3.2	20
24	Evidence for superior current carrying capability of iron pnictide tapes under hydrostatic pressure. Physical Review Materials, 2017, 1, .	2.4	23
25	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
26	Metal frame as local protection of superconducting films from thermomagnetic avalanches. AIP Advances, 2016, 6, .	1.3	12
27	$YB\text{C}_2\text{u}_3\text{O}_7\text{a}^{\text{a}}$	3.2	29
28	A Tunable Magnetic Domain Wall Conduit Regulating Nanoparticle Diffusion. Nano Letters, 2016, 16, 5169-5175.	9.1	5
29	Oscillatory regimes of the thermomagnetic instability in superconducting films. Physical Review B, 2016, 93, .	3.2	20
30	Controllable injector for local flux entry into superconducting films. Superconductor Science and Technology, 2016, 29, 095003.	3.5	12
31	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
32	Cascade dynamics of thermomagnetic avalanches in superconducting films with holes. Physical Review B, 2015, 92, .	3.2	19
33	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
34	First Observation of Flux Avalanches in a-MoSi Superconducting Thin Films. IEEE Transactions on Applied Superconductivity, 2015, 25, 1-4.	1.7	23
35	Substrate Influence on Dendritic Flux Instability in YBCO Thin Films. Journal of Superconductivity and Novel Magnetism, 2015, 28, 379-382.	1.8	10
36	Ray optics behavior of flux avalanche propagation in superconducting films. Physical Review B, 2015, 91, .	3.2	22

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37	Fast and rewritable colloidal assembly via field synchronized particle swapping. Applied Physics Letters, 2014, 104, 174102.	3.3	8
38	Conducting properties of In ₂ O ₃ :Sn thin films at low temperatures. Applied Physics A: Materials Science and Processing, 2014, 114, 957-964.	2.3	16
39	Controllable morphology of flux avalanches in microstructured superconductors. Physical Review B, 2014, 89, .	3.2	41
40	The Thermomagnetic Instability in Superconducting Films with Adjacent Metal Layer. Journal of Low Temperature Physics, 2013, 173, 303-326.	1.4	12
41	Exact asymptotic behavior of magnetic stripe domain arrays. Physical Review B, 2013, 87, .	3.2	19
42	Magneto-Optical Imaging of Superconductors for Liquid Hydrogen Applications. Journal of Superconductivity and Novel Magnetism, 2013, 26, 1499-1502.	1.8	14
43	Enhanced pinning in superconducting thin films with graded pinning landscapes. Applied Physics Letters, 2013, 102, .	3.3	53
44	Limiting thermomagnetic avalanches in superconducting films by stop-holes. Applied Physics Letters, 2013, 103, 032604.	3.3	15
45	Nanosecond voltage pulses from dendritic flux avalanches in superconducting NbN films. Applied Physics Letters, 2013, 102, .	3.3	20
46	Thermo-magnetic stability of superconducting films controlled by nano-morphology. Applied Physics Letters, 2013, 102, 252601.	3.3	10
47	Flux distribution in Fe-based superconducting materials by magneto-optical imaging. Journal of Applied Physics, 2012, 111, 07E143.	2.5	3
48	Quasi-One-Dimensional Intermittent Flux Behavior in Superconducting Films. Physical Review X, 2012, 2, .	8.9	7
49	Mechanism for flux guidance by micrometric antidot arrays in superconducting films. Physical Review B, 2012, 85, .	3.2	21
50	Evidence of Rouse-like dynamics in magnetically ratchetting colloidal chains. Soft Matter, 2011, 7, 7944.	2.7	4
51	Visualizing the ac magnetic susceptibility of superconducting films via magneto-optical imaging. Physical Review B, 2011, 84, .	3.2	27
52	Intermittent Flux Penetration at Different Temperatures in YBa ₂ Cu ₃ O _{7-x} on NdGaO ₃ Substrates. Journal of Superconductivity and Novel Magnetism, 2011, 24, 179-181.	1.8	2
53	Dynamics and morphology of dendritic flux avalanches in superconducting films. Physical Review B, 2011, 84, .	3.2	65
54	Suppression of flux avalanches in superconducting films by electromagnetic braking. Applied Physics Letters, 2010, 96, .	3.3	33

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55	Very strong intrinsic flux pinning and vortex avalanches in $\langle \text{Ba} \rangle$ single crystals. Physical Review B, 2010, 82, .	3.2	137
56	Development of macroturbulent instability in a YBCO single crystal. Low Temperature Physics, 2009, 35, 627-631.	0.6	4
57	Flux Distribution at the Cross Section of Stacked Nanostructured Magnetic Ribbon. IEEE Transactions on Magnetics, 2009, 45, 3912-3914.	2.1	1
58	Colloidal transport on magnetic garnet films. Physical Chemistry Chemical Physics, 2009, 11, 9615.	2.8	93
59	Large domain walls near crack lines in ferrimagnetic garnet films. Physical Review B, 2008, 77, .	3.2	4
60	Manipulation of paramagnetic particles using a nanoscale asymmetric magnetic potential. Applied Physics Letters, 2008, 93, 042516.	3.3	2
61	Dynamic colloidal sorting on a magnetic bubble lattice. Applied Physics Letters, 2008, 93, .	3.3	16
62	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
63	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
64	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
65	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
66	Reentrant stability of superconducting films and the vanishing of dendritic flux instability. Physical Review B, 2007, 76, .	3.2	29
67	Width-dependent upper threshold field for flux noise in MgB2 strips. Applied Physics Letters, 2007, 91, .	3.3	9
68	High Resolution Thermal Imaging of Hotspots in Superconducting Films. IEEE Transactions on Applied Superconductivity, 2007, 17, 3215-3218.	1.7	12
69	Quantitative imaging of stray fields and magnetization distributions in hard magnetic element arrays. Journal of Applied Physics, 2007, 101, 083905.	2.5	20
70	All-optical reversible switching of local magnetization. Applied Physics Letters, 2007, 91, 041916.	3.3	4
71	Magnetic field visualization of magnetic minerals and grain boundary regions using magneto-optical imaging. Journal of Geophysical Research, 2007, 112, .	3.3	3
72	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

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73	Dendritic and uniform flux jumps in superconducting films. <i>Physical Review B</i> , 2006, 73, .	3.2	117
74	Onset of Dendritic Flux Avalanches in Superconducting Films. <i>Physical Review Letters</i> , 2006, 97, 077002.	7.8	110
75	Reconfigurable atom chip on a transparent ferrite-garnet film. <i>European Physical Journal D</i> , 2005, 35, 81-85.	1.3	10
76	Size of flux jumps in superconducting films. <i>Physical Review B</i> , 2005, 72, .	3.2	36
77	Dendritic magnetic avalanches in carbon-free MgB ₂ thin films with and without a deposited Au layer. <i>Applied Physics Letters</i> , 2005, 87, 152501.	3.3	43
78	Avalanche-driven fractal flux distributions in NbN superconducting films. <i>Applied Physics Letters</i> , 2005, 87, 042502.	3.3	70
79	Colloquium: Experiments in vortex avalanches. <i>Reviews of Modern Physics</i> , 2004, 76, 471-487.	45.6	207
80	Finger patterns produced by thermomagnetic instability in superconductors. <i>Physical Review B</i> , 2004, 70, .	3.2	75
81	Selective surface/interface characterization of thin garnet films by magnetization-induced second-harmonic generation. <i>Physical Review B</i> , 2004, 70, .	3.2	13
82	Magnetic Flux Penetration into Polycrystalline Superconducting (Bi,Pb) ₂ Sr ₂ Ca ₂ Cu ₃ O _{10+x} Ceramics Containing Additions of Inorganic Compounds. <i>Inorganic Materials</i> , 2003, 39, S113-S120.	0.8	2
83	Magneto-optical imaging setup for single vortex observation. <i>Review of Scientific Instruments</i> , 2003, 74, 141-146.	1.3	67
84	Superconductivity in an anomalously tetragonal YBa ₂ Cu ₃ O _{6.62} single crystal: A possible singularity in the structural phase diagram. <i>Physical Review B</i> , 2003, 67, .	3.2	2
85	Local threshold field for dendritic instability in superconducting MgB ₂ films. <i>Physical Review B</i> , 2003, 67, .	3.2	56
86	Manipulation of vortices by magnetic domain walls. <i>Applied Physics Letters</i> , 2003, 82, 79-81.	3.3	48
87	Instability of the Vortex-Antivortex System in Anisotropic Hard Superconductors with Nonlinear Current-Voltage Characteristics. <i>Modern Physics Letters B</i> , 2003, 17, 589-595.	1.9	1
88	Superconducting trapped-field magnets: Temperature and field distributions during pulsed-field activation. <i>Journal of Applied Physics</i> , 2002, 92, 6235-6240.	2.5	46
89	Scaling and exact solutions for the flux creep problem in a slab superconductor. <i>Physical Review B</i> , 2002, 65, .	3.2	14
90	Current-induced dendritic magnetic instability in superconducting MgB ₂ films. <i>Applied Physics Letters</i> , 2002, 80, 4588-4590.	3.3	55

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91	Faraday rotation and sensitivity of (100) bismuth-substituted ferrite garnet films. Physical Review B, 2002, 66, .	3.2	93
92	Detection of magnetic data using a magneto-optic indicator. Journal of Applied Physics, 2002, 92, 543-548.	2.5	6
93	The instability of the front of magnetization reversal in anisotropic superconductors. Journal of Experimental and Theoretical Physics, 2002, 95, 768-776.	0.9	6
94	Instability of the magnetization reversal front in superconductors with a nonlinear anisotropic current-voltage characteristic. JETP Letters, 2002, 76, 291-294.	1.4	7
95	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
96	Faraday rotation spectra of bismuth-substituted ferrite garnet films with in-plane magnetization. Physical Review B, 2001, 64, .	3.2	116
97	Dendritic flux patterns in MgB ₂ films. Superconductor Science and Technology, 2001, 14, 726-728.	3.5	85
98	Symmetry of the remanent-state flux distribution in superconducting thin strips: Probing the critical state. Physical Review B, 2001, 63, .	3.2	4
99	Vortex solid-solid transition in a Bi _{1.6} Pb _{0.4} Sr ₂ CaCu ₂ O ₈ + δ crystal. Physical Review B, 2000, 62, 4058-4065.	3.2	48
100	Central Peak Position in Magnetization Loops of High-T _c Superconductors. Physical Review Letters, 1999, 82, 2947-2950.	7.8	48
101	Instability of the Critical State in NdBa ₂ Cu ₃ O ₇ ?? Single Crystals. Physica Status Solidi (B): Basic Research, 1999, 215, R11-R12.	1.5	3
102	Magnetic Levitation With High-T _c Superconducting Thin Films. Journal of Superconductivity and Novel Magnetism, 1998, 11, 519-524.	0.5	10
103	Modelling the Anomalous Low Field Peak Position in Bi-2223 Tapes. Physica Status Solidi A, 1998, 167, R1-R2.	1.7	4
104	Spatially resolved studies of chemical composition, critical temperature, and critical current density of a YBa ₂ Cu ₃ O _{7-δ} thin film. Journal of Applied Physics, 1998, 84, 5089-5096.	2.5	6
105	Modelling the Anomalous Low Field Peak Position in Bi-2223 Tapes. Physica Status Solidi A, 1998, 167, R1-R2.	1.7	1
106	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
107	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
108	Critical state magnetization of type-II superconductors in rectangular slab and cylinder geometries. Journal of Applied Physics, 1995, 77, 3945-3952.	2.5	43

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109	New criticalâ€state model for magnetization of hard typeâ€II superconductors. Journal of Applied Physics, 1994, 76, 8001-8004.	2.5	6
110	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
111	Theory for lateral stability and magnetic stiffness in a highâ€Tc superconductorâ€magnet levitation system. Journal of Applied Physics, 1993, 74, 4060-4065.	2.5	38
112	Logarithmic relaxation in the levitation force in a magnetâ€highTc superconductor system. Applied Physics Letters, 1992, 60, 2294-2296.	3.3	56
113	Lateral force on a magnet placed above a planar YBa2Cu3Ox superconductor. Applied Physics Letters, 1991, 58, 179-181.	3.3	28
114	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
115	Computerâ€controlled highâ€resolution capacitance dilatometer/oven system: Design, instrumentation, and performance. Review of Scientific Instruments, 1986, 57, 1168-1174.	1.3	17
116	Computerized analysis of thermal correlations using Peltier ac heating. Journal of Applied Physics, 1986, 60, 2754-2761.	2.5	2