

Carmine Senatore

List of Publications by Year in descending order

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127
all docs

127
docs citations

127
times ranked

3075
citing authors

#	ARTICLE	IF	CITATIONS
1	A European Collaboration to Investigate Superconducting Magnets for Next Generation Heavy Ion Therapy. IEEE Transactions on Applied Superconductivity, 2022, 32, 1-7.	1.1	15
2	Tomography analysis tool: an application for image analysis based on unsupervised machine learning. IOP SciNotes, 2022, 3, 015201.	0.4	4
3	Heating-Induced Performance Degradation of $\text{Ba}_{2-x}\text{Cu}_{3-y}\text{O}_{7-\delta}$ Coated Conductors: An Oxygen Out-Diffusion Scenario with Two Activation Energies. ACS Applied Electronic Materials, 2022, 4, 1318-1326.	2.0	11
4	Effects of the initial axial strain state on the response to transverse stress of high-performance RRP Nb_3Sn wires. Superconductor Science and Technology, 2021, 34, 035008.	1.8	10
5	Development and large volume production of extremely high current density $\text{YBa}_2\text{Cu}_3\text{O}_7$ superconducting wires for fusion. Scientific Reports, 2021, 11, 2084.	1.6	106
6	HTS Accelerator Magnet and Conductor Development in Europe. Instruments, 2021, 5, 8.	0.8	35
7	Very high upper critical fields and enhanced critical current densities in Nb_3Sn superconductors based on Nb-Ta-Zr alloys and internal oxidation. JPhys Materials, 2021, 4, 025003.	1.8	13
8	Machine learning applied to X-ray tomography as a new tool to analyze the voids in RRP Nb_3Sn wires. Scientific Reports, 2021, 11, 7767.	1.6	11
9	A methodology for the analysis of the three-dimensional mechanical behavior of a Nb_3Sn superconducting accelerator magnet during a quench. Superconductor Science and Technology, 2021, 34, 084003.	1.8	4
10	In-Field Thermal Conductivity of Ag and $\text{Cu/Ag Ba}_{1-x}\text{K}_x\text{Fe}_2\text{As}_2$ Composite Conductors. IEEE Transactions on Applied Superconductivity, 2021, 31, 1-5.	1.1	1
11	Design, construction, and testing of no-insulation small subscale solenoids for compact tokamaks. Superconductor Science and Technology, 2021, 34, 105003.	1.8	6
12	Significant reduction of critical current anisotropy in malic acid treated MgB_2 tapes. Journal of Magnetism and Magnetic Materials, 2020, 497, 166046.	1.0	1
13	High-field superconductivity in C-doped MgB_2 bulk samples prepared by a rapid synthesis route. Scientific Reports, 2020, 10, 17656.	1.6	7
14	Interplay between cold densification and malic acid addition ($\text{C}_4\text{H}_6\text{O}_5$) for the fabrication of near-isotropic MgB_2 conductors for magnet application. Journal of Magnesium and Alloys, 2020, 8, 493-498.	5.5	7
15	On the mechanical behavior of a Nb_3Sn superconducting coil during a quench: Two-dimensional finite element analysis of a quench heater protected magnet. Cryogenics, 2020, 106, 103054.	0.9	3
16	Improved film density for coatings at grazing angle of incidence in high power impulse magnetron sputtering with positive pulse. Thin Solid Films, 2020, 706, 138058.	0.8	22
17	Current transport, magnetic and elemental properties of densified Ag -sheathed $\text{Ba}_{1-x}\text{K}_x\text{Fe}_2\text{As}_2$ tapes. Superconductor Science and Technology, 2020, 33, 095008.	1.8	14
18	Determination of the electromechanical limits of high-performance Nb_3Sn Rutherford cables under transverse stress from a single-wire experiment. Physical Review Research, 2020, 2, .	1.3	12

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19	FCC-hh: The Hadron Collider. European Physical Journal: Special Topics, 2019, 228, 755-1107.	1.2	367
20	HE-LHC: The High-Energy Large Hadron Collider. European Physical Journal: Special Topics, 2019, 228, 1109-1382.	1.2	108
21	FCC-ee: The Lepton Collider. European Physical Journal: Special Topics, 2019, 228, 261-623.	1.2	424
22	AMS-100: The next generation magnetic spectrometer in space – An international science platform for physics and astrophysics at Lagrange point 2. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2019, 944, 162561.	0.7	41
23	Thermal conductivities and thermal runaways of superconducting MgB2 wires stabilized by an Al + Al2O3 sheath. Superconductor Science and Technology, 2019, 32, 115007.	1.8	1
24	Systematic Study of the Contact Resistance Between REBCO Tapes: Pressure Dependence in the Case of No-Insulation, Metal Co-Winding and Metal-Insulation. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-5.	1.1	36
25	The CERN FCC Conductor Development Program: A Worldwide Effort for the Future Generation of High-Field Magnets. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-9.	1.1	35
26	FCC Physics Opportunities. European Physical Journal C, 2019, 79, 1.	1.4	346
27	The 16 T Dipole Development Program for FCC and HE-LHC. IEEE Transactions on Applied Superconductivity, 2019, , 1-1.	1.1	24
28	3-D Thermal-Electric Finite Element Model of a Nb ₃ Sn Coil During a Quench. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-6.	1.1	7
29	Generation of 25 T with an all-superconducting magnet system: field profile and field quality measurements of a layer-wound 4 T REBCO insert coil for a 21 T LTS magnet. Superconductor Science and Technology, 2019, 32, 075005.	1.8	20
30	Electrical and Thermo-Physical Properties of Ni-Alloy Reinforced Bi-2223 Conductors. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-5.	1.1	11
31	Reduced strain sensitivity of the critical current of Nb ₃ Sn multifilamentary wires. Journal of Applied Physics, 2019, 126, .	1.1	4
32	High Current Probe for I _c (B,T) Measurements With ±0.01 K Precision: HTS Current Leads and Active Temperature Stabilization System. IEEE Transactions on Applied Superconductivity, 2018, 28, 1-6.	1.1	9
33	Double-Disordered HTS-Coated Conductors and Their Assemblies Aimed for Ultra-High Fields: Large Area Tapes. IEEE Transactions on Applied Superconductivity, 2018, 28, 1-6.	1.1	20
34	Very-high thermal and electrical conductivity in overpressure-processed Bi ₂ Sr ₂ CaCu ₂ O _{8+x} wires. Materials Research Express, 2018, 5, 056001.	0.8	13
35	Quantitative correlation between the void morphology of niobium-tin wires and their irreversible critical current degradation upon mechanical loading. Scientific Reports, 2018, 8, 6589.	1.6	14
36	First Experimental Results on Damage Limits of Superconducting Accelerator Magnet Components Due to Instantaneous Beam Impact. IEEE Transactions on Applied Superconductivity, 2018, 28, 1-10.	1.1	3

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37	Status of the 16 T Dipole Development Program for a Future Hadron Collider. IEEE Transactions on Applied Superconductivity, 2018, 28, 1-5.	1.1	36
38	Rapid Synthesis of MgB ₂ by Inductive Heating. IEEE Transactions on Applied Superconductivity, 2018, 28, 1-5.	1.1	2
39	The EuCARD2 Future Magnets Program for Particle Accelerator High-Field Dipoles: Review of Results and Next Steps. IEEE Transactions on Applied Superconductivity, 2018, 28, 1-10.	1.1	40
40	Strong improvement of the transport characteristics of YBa ₂ Cu ₃ O _{7-δ} grain boundaries using ionic liquid gating. Scientific Reports, 2018, 8, 17703.	1.6	4
41	The 16 T Dipole Development Program for FCC. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-5.	1.1	77
42	Variation of T_c , lattice parameter and atomic ordering in Nb ₃ Sn platelets irradiated with 12 MeV protons: correlation with the number of induced Frenkel defects. Superconductor Science and Technology, 2017, 30, 054003.	1.8	13
43	Temperature and Field Dependence of the Quench Propagation Velocity in Industrial REBCO Coated Conductors. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-5.	1.1	12
44	Assessing composition gradients in multifilamentary superconductors by means of magnetometry methods. Superconductor Science and Technology, 2017, 30, 014011.	1.8	8
45	Electrical Connectivity in MgB ₂ : The Role of Precursors and Processing Routes in Controlling Voids and Detrimental Secondary Phases. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-6.	1.1	9
46	Evolution of T_c , resistivity and superconductivity in Nb ₃ Sn under pressure. Physical Review B, 2017, 95, .	1.1	13
47	High-Performance Superconductors for Fusion Nuclear Science Facility. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-5.	1.1	6
48	Material and Conductor Properties Relevant for Applications: A Fundamental Study. Asian Journal of Social Science Studies, 2016, , 389-418.	0.0	0
49	An equation for the quench propagation velocity valid for high field magnet use of REBCO coated conductors. Applied Physics Letters, 2016, 108, .	1.5	29
50	Ionic liquid gating of ultra-thin YBa ₂ Cu ₃ O _{7-δ} films. Applied Physics Letters, 2016, 109, .	1.5	26
51	Advances in the Development of a 10-kA Class REBCO Cable for the EuCARD2 Demonstrator Magnet. IEEE Transactions on Applied Superconductivity, 2016, 26, 1-8.	1.1	20
52	Finite-Element Analysis of Transverse Compressive and Thermal Loads on Nb ₃ Sn Wires With Voids. IEEE Transactions on Applied Superconductivity, 2016, 26, 1-5.	1.1	4
53	Measurement and Numerical Evaluation of AC Losses in a ReBCO Roebel Cable at 4.5 K. IEEE Transactions on Applied Superconductivity, 2016, 26, 1-7.	1.1	26
54	Status of the Demonstrator Magnets for the EuCARD-2 Future Magnets Project. IEEE Transactions on Applied Superconductivity, 2016, 26, 1-7.	1.1	24

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55	A Size-Constrained 3-T REBCO Insert Coil for a 21-T LTS Magnet: Mechanical Investigations, Conductor Selection, Coil Design, and First Coil Tests. IEEE Transactions on Applied Superconductivity, 2016, 26, 1-9.	1.1	10
56	Field and temperature scaling of the critical current density in commercial REBCO coated conductors. Superconductor Science and Technology, 2016, 29, 014002.	1.8	106
57	Thermal conductivity and stability of commercial MgB ₂ conductors. Superconductor Science and Technology, 2015, 28, 115014.	1.8	6
58	Double disordered YBCO coated conductors of industrial scale: high currents in high magnetic field. Superconductor Science and Technology, 2015, 28, 114007.	1.8	42
59	Electro-mechanical properties of REBCO coated conductors from various industrial manufacturers at 77 K, self-field and 4.2 K, 19 T. Superconductor Science and Technology, 2015, 28, 045011.	1.8	150
60	High-field thermal transport properties of REBCO coated conductors. Superconductor Science and Technology, 2015, 28, 025001.	1.8	42
61	The EuCARD-2 Future Magnets European Collaboration for Accelerator-Quality HTS Magnets. IEEE Transactions on Applied Superconductivity, 2015, 25, 1-7.	1.1	103
62	Electro-mechanical properties of PIT Nb ₃ Sn wires under transverse stress: experimental results and FEM analysis. Superconductor Science and Technology, 2015, 28, 055014.	1.8	24
63	Transverse Thermal Conductivity of REBCO Coated Conductors. IEEE Transactions on Applied Superconductivity, 2015, 25, 1-4.	1.1	20
64	Stress distribution and lattice distortions in Nb ₃ Sn multifilament wires under uniaxial tensile loading at 4.2 K. Superconductor Science and Technology, 2014, 27, 044021.	1.8	23
65	Progresses and challenges in the development of high-field solenoidal magnets based on RE123 coated conductors. Superconductor Science and Technology, 2014, 27, 103001.	1.8	229
66	Intrawire resistance, AC loss and strain dependence of critical current in MgB ₂ wires with and without cold high-pressure densification. Superconductor Science and Technology, 2014, 27, 075002.	1.8	9
67	Thermal Conductivity of Industrial Nb ₃ Sn Wires Fabricated by Various Techniques. IEEE Transactions on Applied Superconductivity, 2013, 23, 6000404-6000404.	1.1	9
68	Variation of $(J_c/J_{c0})_{\max}$ of Binary and Ternary Alloyed RRP and PIT Nb ₃ Sn Wires Exposed to Fast Neutron Irradiation at Ambient Reactor Temperature. IEEE Transactions on Applied Superconductivity, 2013, 23, 8001404-8001404.	1.1	6
69	Formation and upper critical fields of the two distinct A15 phases in the subelements of powder-in-tube Nb ₃ Sn wires. Applied Physics Letters, 2013, 102, 012601.	1.5	12
70	Effect of cold high pressure deformation on the properties of <i>ex situ</i> MgB ₂ wires. Superconductor Science and Technology, 2013, 26, 105019.	1.8	17
71	Reversible stress-induced anomalies in the strain function of Nb ₃ Sn wires. Superconductor Science and Technology, 2012, 25, 025015.	1.8	13
72	Effect of quasi-hydrostatic radial pressure on <i>in situ</i> of Nb ₃ Sn wires. Superconductor Science and Technology, 2012, 25, 115002.	1.8	18

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73	Toward a standard for critical current versus axial strain measurements of Nb ₃ Sn. Superconductor Science and Technology, 2012, 25, 054002.	1.8	10
74	Technical aspects of cold high pressure densification (CHPD) on long lengths of In Situ MgB ₂ wires with enhanced J _c values. , 2012, , . Temperature and time scaling of the peak effect vortex configuration in FeTe. $\text{arXiv:1205.4002v1 [cond-mat.str-el]}$		6
75	$\text{arXiv:1205.4002v1 [cond-mat.str-el]}$ Temperature and time scaling of the peak effect vortex configuration in FeTe. Physical Review B, 2012, 85, 020407.	1.1	70
76	Extensive Characterization of the 1 mm PIT & formula formulatype="inline"><tex Notation="TeX">\${m Nb}_{3}{m Sn}\$</tex></formula> Strand for the 13-T FRESCA2 Magnet. IEEE Transactions on Applied Superconductivity, 2012, 22, 6000304-6000304.	1.1	20
77	Phase Formation, Composition and T_{c} Distribution of Binary and Ta-Alloyed $Nb_{3}Sn$ Wires Produced by Various Techniques. IEEE Transactions on Applied Superconductivity, 2012, 22, 6001304-6001304.	1.1	1
78	Direct observation of Nb ₃ Sn lattice deformation by high-energy x-ray diffraction in internal-tin wires subject to mechanical loads at 4.2 K. Superconductor Science and Technology, 2012, 25, 054006.	1.8	24
79	Magnetic Relaxation in FeTe _{0.7} Se _{0.3} . Physics Procedia, 2012, 36, 710-715.	1.2	0
80	Enhanced Connectivity and Percolation in Binary and Doped In Situ MgB_{2} Wires After Cold High Pressure Densification. IEEE Transactions on Applied Superconductivity, 2011, 21, 2680-2685.	1.1	12
81	Low Critical Current Sensitivity of RHQT $Nb_{3}Al$ Wires Under Transverse Compressive Stress Up to 300 MPa. IEEE Transactions on Applied Superconductivity, 2011, 21, 2593-2596.	1.1	1
82	A New Generation of In Situ MgB_{2} Wires With Improved J_{c} and B_{irr} Values Obtained by Cold Densification (CHPD). IEEE Transactions on Applied Superconductivity, 2011, 21, 2649-2654.	1.1	20
83	Structure, stability and relaxivity of trinuclear triangular complexes. Dalton Transactions, 2011, 40, 4284.	1.6	7
84	Magnetization and Inter-Filament Contact in HEP and ITER Bronze-Route $Nb_{3}Sn$ Wires. IEEE Transactions on Applied Superconductivity, 2011, 21, 3373-3376.	1.1	7
85	Improved transport properties and connectivity of in situ MgB ₂ wires obtained by Cold High Pressure Densification (CHPD). Physica C: Superconductivity and Its Applications, 2011, 471, 1119-1123.	0.6	16
86	Magnetic and in vitro heating properties of implants formed in situ from injectable formulations and containing superparamagnetic iron oxide nanoparticles (SPIONs) embedded in silica microparticles for magnetically induced local hyperthermia. Journal of Magnetism and Magnetic Materials, 2011, 323, 1054-1063.	1.0	38
87	Critical current of a rapid-quenched Nb ₃ Al conductor under transverse compressive and axial tensile stress. Superconductor Science and Technology, 2011, 24, 035011.	1.8	12
88	Improvement of J_{c} by cold high pressure densification of binary, 18-filament in situ MgB_{2} wires. Superconductor Science and Technology, 2011, 24, 075013.	1.8	14
89	Temperature induced degradation of Nb-Ti/Cu composite superconductors. Journal of Physics: Conference Series, 2010, 234, 022031.	0.3	5
90	BiOCuS: A new superconducting compound with oxypnictide-related structure. Physica C: Superconductivity and Its Applications, 2010, 470, S356-S357.	0.6	23

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91	Cu Ti Formation in Nb Ti/Cu Superconducting Strand Monitored by <i>In Situ</i> Techniques. Defect and Diffusion Forum, 2010, 297-301, 695-701.	0.4	0
92	Vortex phase diagram and temperature-dependent second-peak effect in overdoped Bi ₂ Sr ₂ CuO _{6+δ} crystals. Physical Review B, 2010, 81, .	1.1	8
93	Improvement of electromechanical properties of an ITER internal tin Nb ₃ Sn wire. Journal of Applied Physics, 2010, 108, .	1.1	16
94	Real-Space Vortex Glass Imaging and the Vortex Phase Diagram of $S_{\mathbf{m}}\mathbf{M}_{\mathbf{n}}\mathbf{O}_{\mathbf{p}}$. Physical Review Letters, 2009, 103, 257001.	1.9	22
95	Correlation between superconducting transition width and relaxation rates in various industrial Y123-coated conductors. Superconductor Science and Technology, 2009, 22, 095016.	1.8	3
96	The enhanced J_c and B_{irr} of <i>in situ</i> MgB ₂ wires and tapes alloyed with C ₄ H ₆ O ₅ (malic acid) after cold high pressure densification. Superconductor Science and Technology, 2009, 22, 095004.	1.8	61
97	Strong enhancement of J_c and B_{irr} in binary <i>in situ</i> MgB ₂ wires after cold high pressure densification. Superconductor Science and Technology, 2009, 22, 085002.	1.8	81
98	Microstructure, composition and critical current density of superconducting Nb ₃ Sn wires. Cryogenics, 2008, 48, 293-307.	0.9	101
99	Optimization of Nb ₃ Sn and MgB ₂ wires. Superconductor Science and Technology, 2008, 21, 054015.	1.8	31
100	Transport Properties of a PIT- Nb_3Sn Strand Under Transverse Compressive and Axial Tensile Stress. IEEE Transactions on Applied Superconductivity, 2008, 18, 976-979.	1.1	7
101	Upper critical fields well above 100 T for the superconductor $\text{SmFeAsO}_{1-x}\text{F}_x$. Physical Review B, 2008, 78, 020501.	1.1	120
102	Correlation Between the Overall J_c Distribution in Bronze Route Nb_3Sn Wires and the Sn Gradient in the Filaments. IEEE Transactions on Applied Superconductivity, 2008, 18, 1010-1013.	1.1	0
103	Simultaneous Addition of B ₄ C+SiC to MgB ₂ Wires and Consequences for J_c and B_{irr} . IEEE Transactions on Applied Superconductivity, 2007, 17, 2846-2849.	1.1	23
104	Critical Current Anisotropy and Texture Gradients in <i>ex situ</i> MgB_2/Fe Tapes. IEEE Transactions on Applied Superconductivity, 2007, 17, 2834-2837.	1.1	2
105	Specific Heat and Magnetic Relaxation Analysis of MgB_2 Bulk Samples With and Without Additives. IEEE Transactions on Applied Superconductivity, 2007, 17, 2941-2944.	1.1	10
106	Publisher's Note: Mechanism of Enhancement in Electromagnetic Properties of MgB ₂ by Nano SiC Doping [Phys. Rev. Lett. 98, 097002 (2007)]. Physical Review Letters, 2007, 98, .	2.9	14
107	Distribution of T_c from calorimetry and the determination of Sn gradients in bronze route Nb ₃ Sn wires with an internal and external Ti source. Superconductor Science and Technology, 2007, 20, S217-S222.	1.8	35
108	Investigation on the Effect of Ta Additions on J_c and n of $(\text{Nb},\text{Ti})_3\text{Sn}$ Bronze Processed Multifilamentary Wires at High Magnetic Fields. IEEE Transactions on Applied Superconductivity, 2007, 17, 2564-2567.	1.1	8

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109	Mechanism of Enhancement in Electromagnetic Properties of MgB ₂ by Nano SiC Doping. Physical Review Letters, 2007, 98, 097002.	2.9	253
110	Specific Heat, A Method to Determine the T_c Distribution in Industrial Nb ₃ Sn Wires Prepared by Various Techniques. IEEE Transactions on Applied Superconductivity, 2007, 17, 2611-2614.	1.1	18
111	Critical Current Anisotropy, Pinning Properties and Relaxation Rate of Ex-situ MgB ₂ /Fe Tapes. AIP Conference Proceedings, 2006, , .	0.3	6
112	Specific heat of Nb ₃ Sn wires. Superconductor Science and Technology, 2006, 19, 263-266.	1.8	21
113	Determination of the texturing gradient in ex situ MgB ₂ -Fe tapes examined by x-ray diffraction and its effects on the pinning force. Journal of Applied Physics, 2006, 100, 113913.	1.1	0
114	Improved critical current densities in B4C doped MgB ₂ based wires. Superconductor Science and Technology, 2006, 19, 1030-1033.	1.8	92
115	Third Harmonic Susceptibility and Pinning Properties of Fe/MgB ₂ Tapes. IEEE Transactions on Applied Superconductivity, 2005, 15, 3329-3332.	1.1	6
116	Anisotropy of J_c in Ex Situ MgB ₂ /Fe Monofilamentary Tapes. IEEE Transactions on Applied Superconductivity, 2005, 15, 3196-3199.	1.1	19
117	Magnetic relaxation of type-II superconductors in a mixed state of entrapped and shielded flux. Physical Review B, 2004, 70, .	1.1	29
118	Transport properties and exponential n-values of Fe/MgB ₂ tapes with various MgB ₂ particle sizes. Physica C: Superconductivity and Its Applications, 2004, 401, 305-309.	0.6	29
119	Non-linear magnetic response of MgB ₂ bulk superconductors. Physica C: Superconductivity and Its Applications, 2004, 401, 182-186.	0.6	19
120	Harmonics of the AC susceptibility as probes to differentiate the various creep models. Physica C: Superconductivity and Its Applications, 2004, 404, 289-292.	0.6	25
121	Harmonic susceptibilities and pinning properties of MgB ₂ bulk superconductors. Physica C: Superconductivity and Its Applications, 2003, 388-389, 161-162.	0.6	3
122	STUDY OF THE VORTEX DYNAMIC IN MgB ₂ BY HARMONIC SUSCEPTIBILITY MEASUREMENTS. International Journal of Modern Physics B, 2003, 17, 655-660.	1.0	2
123	NUMERICAL CALCULATION OF THE CRITICAL STATE IN SUPERCONDUCTING TAPES ABOVE THE FULL PENETRATION FIELD. International Journal of Modern Physics B, 2003, 17, 916-921.	1.0	2
124	Vortex dynamics and pinning properties analysis of MgB ₂ bulk samples by ac susceptibility measurements. Superconductor Science and Technology, 2003, 16, 183-187.	1.8	28
125	Hysteresis losses in BSCCO(2223)/Ag multifilamentary tapes. Physica C: Superconductivity and Its Applications, 2002, 372-376, 1823-1826.	0.6	1