Gianluigi Ciovati

List of Publications by Year
in descending order

42	892	471509 17	477307 29
papers	citations	h-index	g-index

42	42	42	412
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Effect of low-temperature baking on the radio-frequency properties of niobium superconducting cavities for particle accelerators. Journal of Applied Physics, 2004, 96, 1591-1600.	2.5	82
2	Effect of high temperature heat treatments on the quality factor of a large-grain superconducting radio-frequency niobium cavity. Physical Review Special Topics: Accelerators and Beams, 2013, 16, .	1.8	71
3	Dynamics of vortex penetration, jumpwise instabilities, and nonlinear surface resistance of type-II superconductors in strong rf fields. Physical Review B, 2008, 77, .	3.2	70
4	High field<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline"><mml:mi>Q</mml:mi></mml:math>slope and the baking effect: Review of recent experimental results and new data on Nb heat treatments. Physical Review Special Topics: Accelerators and Beams, 2010, 13, .	1.8	65
5	Effect of vortex hotspots on the radio-frequency surface resistance of superconductors. Physical Review B, 2013, 87, .	3.2	58
6	Improved oxygen diffusion model to explain the effect of low-temperature baking on high field losses in niobium superconducting cavities. Applied Physics Letters, 2006, 89, 022507.	3.3	40
7	Review of ingot niobium as a material for superconducting radiofrequency accelerating cavities. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2015, 774, 133-150.	1.6	36
8	Measurement of the high-fieldQdrop in a high-purity large-grain niobium cavity for different oxidation processes. Physical Review Special Topics: Accelerators and Beams, 2007, 10, .	1.8	34
9	Decrease of the surface resistance in superconducting niobium resonator cavities by the microwave field. Applied Physics Letters, 2014, 104, .	3.3	33
10	Effect of low temperature baking in nitrogen on the performance of a niobium superconducting radio frequency cavity. Physical Review Accelerators and Beams, 2018, 21, .	1.6	33
11	Evidence of high-field radio-frequency hot spots due to trapped vortices in niobium cavities. Physical Review Special Topics: Accelerators and Beams, 2008, 11, .	1.8	30
12	Flux expulsion in niobium superconducting radio-frequency cavities of different purity and essential contributions to the flux sensitivity. Physical Review Accelerators and Beams, 2020, 23, .	1.6	27
13	Detection of surface carbon and hydrocarbons in hot spot regions of niobium superconducting rf cavities by Raman spectroscopy. Physical Review Special Topics: Accelerators and Beams, 2013, 16, .	1.8	26
14	Superconducting radio-frequency cavities made from medium and low-purity niobium ingots. Superconductor Science and Technology, 2016, 29, 064002.	3.5	22
15	Review of the frontier workshop and Q-slope results. Physica C: Superconductivity and Its Applications, 2006, 441, 44-50.	1.2	21
16	Design of a cw, low-energy, high-power superconducting linac for environmental applications. Physical Review Accelerators and Beams, 2018, 21, .	1.6	21
17	Superconducting Radio-Frequency Technology R&D for Future Accelerator Applications. Reviews of Accelerator Science and Technology, 2012, 05, 285-312.	0.5	20
18	Electron Tunneling and X-Ray Photoelectron Spectroscopy Studies of the Superconducting Properties of Nitrogen-Doped Niobium Resonator Cavities. Physical Review Applied, 2020, 13, .	3.8	20

#	Article	IF	Citations
19	Buffered electrochemical polishing of niobium. Journal of Applied Electrochemistry, 2011, 41, 721-730.	2.9	17
20	Flux pinning characteristics in cylindrical niobium samples used for superconducting radio frequency cavity fabrication. Superconductor Science and Technology, 2012, 25, 065014.	3.5	17
21	Enhancement in Quality Factor of SRF Niobium Cavities by Material Diffusion. IEEE Transactions on Applied Superconductivity, 2015, 25, 1-4.	1.7	17
22	Multi-metallic conduction cooled superconducting radio-frequency cavity with high thermal stability. Superconductor Science and Technology, 2020, 33, 07LT01.	3.5	15
23	Characterization of etch pits found on a large-grain bulk niobium superconducting radio-frequency resonant cavity. Physical Review Special Topics: Accelerators and Beams, 2010, 13, .	1.8	14
24	Analysis of the medium field Q-slope in superconducting cavities made of bulk niobium. Physica C: Superconductivity and Its Applications, 2006, 441, 57-61.	1.2	13
25	Development of Large Grain/Single Crystal Niobium Cavity Technology at Jefferson Lab. AIP Conference Proceedings, 2007, , .	0.4	13
26	Measurement of the high-fieldQdrop in theTM010andTE011modes in a niobium cavity. Physical Review Special Topics: Accelerators and Beams, 2006, 9, .	1.8	11
27	Design and performance of a new induction furnace for heat treatment of superconducting radiofrequency niobium cavities. Review of Scientific Instruments, 2012, 83, 065105.	1.3	11
28	Surface characterization of nitrogen-doped high purity niobium coupons compared with superconducting rf cavity performance. Physical Review Accelerators and Beams, 2019, 22, .	1.6	10
29	Low temperature laser scanning microscopy of a superconducting radio-frequency cavity. Review of Scientific Instruments, 2012, 83, 034704.	1.3	9
30	High-Frequency Nonlinear Response of Superconducting Cavity-Grade <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" display="inline" overflow="scroll"><mml:mi>Nb</mml:mi></mml:math> ÂSurfaces. Physical Review Applied, 2019, 11, .	3.8	7
31	Design and commissioning of an e-beam irradiation beamline at the Upgraded Injector Test Facility at Jefferson Lab. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2022, 1039, 167093.	1.6	5
32	Determination of the magnetic field dependence of the surface resistance of superconductors from cavity tests. Physical Review Accelerators and Beams, 2018, 21, .	1.6	4
33	Magnetic field sensors for detection of trapped flux in superconducting radio frequency cavities. Review of Scientific Instruments, 2021, 92, 104705.	1.3	4
34	Nonlinear Meissner effect in <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Nb</mml:mi><mml:mn>3</mml:mn></mml: coplanar resonators. Physical Review Research, 2022, 4, .	3.6	4
35	Effect of cooldown and residual magnetic field on the performance of niobiumâ€“copper clad superconducting radio-frequency cavity. Superconductor Science and Technology, 2018, 31, 015006.	3.5	3
36	Design, fabrication, RF test at 2 K of 1050MHz, Î²=0.49 single cell large and fine grain niobium cavity. Journal of Instrumentation, 2011, 6, T11003-T11003.	1.2	2

#	Article	IF	Citations
37	Imaging of the Surface Resistance of an SRF Cavity by Low-Temperature Laser Scanning Microscopy. IEEE Transactions on Applied Superconductivity, 2013, 23, 3500506-3500506.	1.7	2
38	SIMS analysis of high-performance accelerator niobium. Surface and Interface Analysis, 2014, 46, 288-290.	1.8	2
39	High performance superconducting radio frequency ingot niobium technology for continuous wave applications. AIP Conference Proceedings, 2015, , .	0.4	2
40	Impact of Remanent Magnetic Field on the Heat Load of Original CEBAF Cryomodule. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-6.	1.7	1
41	Reduction of waveguide vacuum trips in CEBAF accelerating cavities with a combination ion pump and non-evaporable getter pump. Nuclear Instruments and Methods in Physics Research, Section A: Accelerators, Spectrometers, Detectors and Associated Equipment, 2020, 964, 163788.	1.6	0
42	Evidence of increased radio-frequency losses in cavities from the fundamental power coupler cold window. Physical Review Accelerators and Beams, 2021, 24, .	1.6	0