

Sergey K Tolpygo

List of Publications by Year in descending order

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docs citations

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times ranked

578
citing authors

#	ARTICLE	IF	CITATIONS
1	Advanced Fabrication Processes for Superconducting Very Large Scale Integrated Circuits. IEEE Transactions on Applied Superconductivity, 2016, , 1-1.	1.7	175
2	Superconductor digital electronics: Scalability and energy efficiency issues (Review Article). Low Temperature Physics, 2016, 42, 361-379.	0.6	143
3	Fabrication Process and Properties of Fully-Planarized Deep-Submicron Nb/AlO _x /Nb Josephson Junctions for VLSI Circuits. IEEE Transactions on Applied Superconductivity, 2015, 25, 1-12.	1.7	113
4	Advanced Fabrication Processes for Superconductor Electronics: Current Status and New Developments. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-13.	1.7	64
5	20 kA/cm^2 Process Development for Superconducting Integrated Circuits With 80 GHz Clock Frequency. IEEE Transactions on Applied Superconductivity, 2007, 17, 946-951.	1.7	61
6	Inductance of Circuit Structures for MIT LL Superconductor Electronics Fabrication Process With 8 Niobium Layers. IEEE Transactions on Applied Superconductivity, 2015, 25, 1-5.	1.7	60
7	Properties of Unshunted and Resistively Shunted Nb/AlO _x -Al/Nb Josephson Junctions With Critical Current Densities From 0.1 to 1 mA/ μm^2 . IEEE Transactions on Applied Superconductivity, 2017, 27, 1-15.	1.7	60
8	New AC-Powered SFQ Digital Circuits. IEEE Transactions on Applied Superconductivity, 2015, 25, 1-7.	1.7	43
9	Superconductor Electronics Fabrication Process with MoNx Kinetic Inductors and Self-Shunted Josephson Junctions. IEEE Transactions on Applied Superconductivity, 2018, 28, 1-12.	1.7	42
10	AC-Biased Shift Registers as Fabrication Process Benchmark Circuits and Flux Trapping Diagnostic Tool. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-9.	1.7	38
11	Very Large Scale Integration of Josephson-Junction-Based Superconductor Random Access Memories. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-9.	1.7	34
12	Deep sub-micron stud-via technology of superconductor VLSI circuits. Superconductor Science and Technology, 2014, 27, 025016.	3.5	29
13	Plasma process-induced damage to Josephson tunnel junctions in superconducting integrated circuits. Superconductor Science and Technology, 2007, 20, S341-S349.	3.5	24
14	Increasing integration scale of superconductor electronics beyond one million Josephson junctions. Journal of Physics: Conference Series, 2020, 1559, 012002.	0.4	20
15	Electrical stress effect on Josephson tunneling through ultrathin AlO _x barrier in Nb/Al/AlO _x /Nb junctions. Journal of Applied Physics, 2008, 104, .	2.5	19
16	Inductance of superconductor integrated circuit features with sizes down to 120 nm. Superconductor Science and Technology, 2021, 34, 085005.	3.5	18
17	Developments toward a 250-nm, Fully Planarized Fabrication Process with Ten Superconducting Layers and Self-Shunted Josephson Junctions. , 2017, , .		14
18	Planarized Fabrication Process With Two Layers of SIS Josephson Junctions and Integration of SIS and SFS <i>Josephson</i>-Junctions. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-8.	1.7	14

#	ARTICLE	IF	CITATIONS
19	A New Family of bioSFQ Logic/Memory Cells. IEEE Transactions on Applied Superconductivity, 2022, 32, 1-5.	1.7	14
20	Diffusion Stop-Layers for Superconducting Integrated Circuits and Qubits With Nb-Based Josephson Junctions. IEEE Transactions on Applied Superconductivity, 2011, 21, 119-125.	1.7	13
21	Wafer Bumping Process and Inter-Chip Connections for Ultra-High Data Transfer Rates in Multi-Chip Modules With Superconductor Integrated Circuits. IEEE Transactions on Applied Superconductivity, 2009, 19, 598-602.	1.7	9
22	Investigation of the Role of H in Fabrication-Process- Induced Variations of $\text{Nb}/\text{Al}/\text{Nb}$ Josephson Junctions. IEEE Transactions on Applied Superconductivity, 2011, 21, 126-130.	1.7	9
23	3D Active Demagnetization of Cold Magnetic Shields. IEEE Transactions on Applied Superconductivity, 2011, 21, 724-727.	1.7	9
24	Mutual and Self-Inductance in Planarized Multilayered Superconductor Integrated Circuits: Microstrips, Striplines, Bends, Meanders, Ground Plane Perforations. IEEE Transactions on Applied Superconductivity, 2022, 32, 1-31.	1.7	9
25	Process-Induced Variability of $\text{Nb}/\text{Al}/\text{Nb}$ Junctions in Superconductor Integrated Circuits and Protection Against It. IEEE Transactions on Applied Superconductivity, 2009, 19, 135-139.	1.7	8
26	Submicron Nb Microwave Transmission Lines and Components for Single-Flux-Quantum and Analog Large-Scale Superconducting Integrated Circuits. IEEE Transactions on Applied Superconductivity, 2017, 27, 1-5.	1.7	8
27	SFQ Bias for SFQ Digital Circuits. IEEE Transactions on Applied Superconductivity, 2021, 31, 1-7.	1.7	7
28	Effect of Electrical Stress on Josephson Tunneling Characteristics of $\text{Nb}/\text{Al}/\text{Nb}$ Junctions. IEEE Transactions on Applied Superconductivity, 2009, 19, 154-158.	1.7	5
29	Wafer-Scale Characterization of a Superconductor Integrated Circuit Fabrication Process, Using a Cryogenic Wafer Prober. IEEE Transactions on Applied Superconductivity, 2022, 32, 1-12.	1.7	2
30	Reliability Studies of $\text{Nb}/\text{Al}/\text{Nb}$ Josephson Junctions Through Accelerated-Life Electrical Stress Testing. IEEE Transactions on Applied Superconductivity, 2019, 29, 1-7.	1.7	1