

Safumi Suzuki

List of Publications by Year in descending order

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111
papers

2,480
citations

279798

23
h-index

223800

46
g-index

112
all docs

112
docs citations

112
times ranked

953
citing authors

#	ARTICLE	IF	CITATIONS
1	Resonant Tunneling Diodes for Sub-Terahertz and Terahertz Oscillators. Japanese Journal of Applied Physics, 2008, 47, 4375.	1.5	288
2	Oscillation up to 1.92 THz in resonant tunneling diode by reduced conduction loss. Applied Physics Express, 2016, 9, 024101.	2.4	260
3	Fundamental oscillation of resonant tunneling diodes above 1 THz at room temperature. Applied Physics Letters, 2010, 97, .	3.3	256
4	1.98 THz resonant-tunneling-diode oscillator with reduced conduction loss by thick antenna electrode. , 2017, , .		97
5	Fundamental Oscillation up to 1.31 THz in Resonant Tunneling Diodes with Thin Well and Barriers. Applied Physics Express, 2012, 5, 124101.	2.4	93
6	Room-Temperature Oscillation of Resonant Tunneling Diodes close to 2 THz and Their Functions for Various Applications. Journal of Infrared, Millimeter, and Terahertz Waves, 2016, 37, 1185-1198.	2.2	90
7	Large-scale array of resonant-tunneling-diode terahertz oscillators for high output power at 1 THz. Journal of Applied Physics, 2019, 125, .	2.5	85
8	Fundamental Oscillation up to 1.42 THz in Resonant Tunneling Diodes by Optimized Collector Spacer Thickness. Journal of Infrared, Millimeter, and Terahertz Waves, 2014, 35, 425-431.	2.2	80
9	Operation of resonant-tunneling diodes with strong back injection from the collector at frequencies up to 1.46 THz. Applied Physics Letters, 2014, 104, .	3.3	77
10	Terahertz Wireless Data Transmission With Frequency and Polarization Division Multiplexing Using Resonant-Tunneling-Diode Oscillators. IEEE Transactions on Terahertz Science and Technology, 2017, 7, 593-598.	3.1	76
11	Experimental and Theoretical Characteristics of Sub-Terahertz and Terahertz Oscillations of Resonant Tunneling Diodes Integrated with Slot Antennas. Japanese Journal of Applied Physics, 2005, 44, 7809-7815.	1.5	73
12	Terahertz Emitter Using Resonant-Tunneling Diode and Applications. Sensors, 2021, 21, 1384.	3.8	70
13	Fundamental Oscillation of up to 831 GHz in GaInAs/AlAs Resonant Tunneling Diode. Applied Physics Express, 0, 2, 054501.	2.4	63
14	Structure dependence of oscillation characteristics of resonant-tunneling-diode terahertz oscillators associated with intrinsic and extrinsic delay times. Japanese Journal of Applied Physics, 2015, 54, 094103.	1.5	49
15	Low-Profile Terahertz Radar Based on Broadband Leaky-Wave Beam Steering. IEEE Transactions on Terahertz Science and Technology, 2016, , 1-10.	3.1	37
16	High Output Power ($\sim 400 \mu\text{W}$) Oscillators at around 550 GHz Using Resonant Tunneling Diodes with Graded Emitter and Thin Barriers. Applied Physics Express, 2011, 4, 064101.	2.4	33
17	650-GHz Resonant-Tunneling-Diode VCO With Wide Tuning Range Using Varactor Diode. IEEE Electron Device Letters, 2014, 35, 1215-1217.	3.9	30
18	Measurement of Oscillation Frequency and Spectral Linewidth of Sub-Terahertz InP-Based Resonant Tunneling Diode Oscillators Using InP Schottky Barrier Diode. Japanese Journal of Applied Physics, 2010, 49, 020208.	1.5	29

#	ARTICLE	IF	CITATIONS
19	Direct intensity modulation of resonant-tunneling-diode terahertz oscillator up to ~ 30 GHz. IEICE Electronics Express, 2015, 12, 20141161-20141161.	0.8	28
20	Absolute and Precise Terahertz-Wave Radar Based on an Amplitude-Modulated Resonant-Tunneling-Diode Oscillator. Photonics, 2018, 5, 52.	2.0	28
21	Frequency-tunable resonant-tunneling-diode terahertz oscillators applied to absorbance measurement. Japanese Journal of Applied Physics, 2017, 56, 058002.	1.5	27
22	Sub-Terahertz Resonant Tunneling Diode Oscillators with High Output Power ($\sim 200 \mu\text{W}$) Using Offset-Fed Slot Antenna and High Current Density. Applied Physics Express, 2010, 3, 014001.	2.4	26
23	Resonant-tunneling-diode terahertz oscillator with a cylindrical cavity for high-frequency oscillation. AIP Advances, 2019, 9, .	1.3	25
24	Sub-Terahertz Resonant Tunneling Diode Oscillators Integrated with Tapered Slot Antennas for Horizontal Radiation. Applied Physics Express, 0, 2, 044501.	2.4	24
25	Resonant-Tunneling-Diode Terahertz Oscillator Using Patch Antenna Integrated on Slot Resonator for Power Radiation. IEEE Transactions on Terahertz Science and Technology, 2015, 5, 613-618.	3.1	23
26	Nonlinear optical detection of terahertz-wave radiation from resonant tunneling diodes. Optics Express, 2017, 25, 5389.	3.4	23
27	Sensitive terahertz-wave detector responses originated by negative differential conductance of resonant-tunneling-diode oscillator. Applied Physics Letters, 2020, 117, .	3.3	23
28	Theoretical analysis of external feedback effect on oscillation characteristics of resonant-tunneling-diode terahertz oscillators. Japanese Journal of Applied Physics, 2015, 54, 070309.	1.5	22
29	Analysis of a high-power resonant-tunneling-diode terahertz oscillator integrated with a rectangular cavity resonator. Japanese Journal of Applied Physics, 2020, 59, 050907.	1.5	20
30	Terahertz oscillators using electron devices - an approach with Resonant tunneling diodes. IEICE Electronics Express, 2011, 8, 1110-1126.	0.8	17
31	Frequency Increase of Resonant Tunneling Diode Oscillators in Sub-THz and THz Range Using Thick Spacer Layers. Applied Physics Express, 0, 1, 042003.	2.4	16
32	Wireless data transmission of 30 Gbps at a 500-GHz range using resonant-tunneling-diode terahertz oscillator. , 2016, , .		16
33	Structure-Simplified Resonant-Tunneling-Diode Terahertz Oscillator Without Metal-Insulator-Metal Capacitors. Journal of Infrared, Millimeter, and Terahertz Waves, 2020, 41, 1498-1507.	2.2	16
34	Experimental and Theoretical Investigation of the Dependence of Oscillation Characteristics on Structure of Integrated Slot Antennas in Sub-terahertz and Terahertz Oscillating Resonant Tunneling Diodes. Japanese Journal of Applied Physics, 2008, 47, 64.	1.5	15
35	Mutual Injection Locking between Sub-THz Oscillating Resonant Tunneling Diodes. Japanese Journal of Applied Physics, 2005, 44, L1439-L1441.	1.5	14
36	Subharmonic Injection Locking for Phase and Frequency Control of RTD-Based THz Oscillator. IEEE Transactions on Terahertz Science and Technology, 2020, 10, 221-224.	3.1	14

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37	Impedance Matching in High-Power Resonant-Tunneling-Diode Terahertz Oscillators Integrated with Rectangular-Cavity Resonator. IEICE Transactions on Electronics, 2021, E104.C, 398-402.	0.6	14
38	Coherent Power Combination in Highly Integrated Resonant Tunneling Diode Oscillators with Slot Antennas. Japanese Journal of Applied Physics, 2007, 46, L1108-L1110.	1.5	13
39	Extremely High Peak Current Densities of over $1\text{A}/\text{cm}^2$ in InP-Based InGaAs/AlAs Resonant Tunneling Diodes Grown by Metal-Organic Vapor-Phase Epitaxy. Japanese Journal of Applied Physics, 2010, 49, 051201.	1.5	13
40	Resonant-tunneling-diode terahertz oscillator integrated with a radial line slot antenna for circularly polarized wave radiation. Semiconductor Science and Technology, 2018, 33, 114005.	2.0	13
41	Frequency increase in resonant-tunneling diode cavity-type terahertz oscillator by simulation-based structure optimization. Japanese Journal of Applied Physics, 2020, 59, 032004.	1.5	13
42	Highly Efficient Resonant Tunneling Diode Terahertz Oscillator With a Split Ring Resonator. IEEE Electron Device Letters, 2021, 42, 982-985.	3.9	13
43	Proposal of Resonant Tunneling Diode Oscillators with Offset-Fed Slot Antennas in Terahertz and Sub-Terahertz Range. Japanese Journal of Applied Physics, 2007, 46, 119-121.	1.5	12
44	Voltage-Controlled Harmonic Oscillation at About 1 THz in Resonant Tunneling Diodes Integrated with Slot Antennas. Japanese Journal of Applied Physics, 2007, 46, 2904-2906.	1.5	12
45	Subcarrier Frequency-Modulated Continuous-Wave Radar in the Terahertz Range Based on a Resonant-Tunneling-Diode Oscillator. Sensors, 2020, 20, 6848.	3.8	12
46	Fundamental Oscillation of up to 915 GHz in Small-Area InGaAs/AlAs Resonant Tunneling Diodes with Planar Slot Antennas. Japanese Journal of Applied Physics, 2010, 49, 020211.	1.5	11
47	Discrete Fourier Transform Radar in the Terahertz-Wave Range Based on a Resonant-Tunneling-Diode Oscillator. Sensors, 2021, 21, 4367.	3.8	11
48	Amplitude-modulated continuous-wave radar in the terahertz range using lock-in phase measurement. Measurement Science and Technology, 2020, 31, 105001.	2.6	11
49	Fundamental oscillation up to 1.08THz in resonant tunneling diodes with high-indium-composition transit layers for reduction of transit delay. IEICE Electronics Express, 2012, 9, 385-390.	0.8	10
50	Terahertz oscillation of resonant tunneling diodes with deep and thin quantum wells. IEICE Electronics Express, 2013, 10, 20130501-20130501.	0.8	10
51	Structural and electrical transport properties of MOVPE-grown pseudomorphic AlAs/InGaAs/InAs resonant tunneling diodes on InP substrates. Japanese Journal of Applied Physics, 2014, 53, 031202.	1.5	10
52	Wide frequency tuning in resonant-tunneling-diode terahertz oscillator using forward-biased varactor diode. Japanese Journal of Applied Physics, 2017, 56, 040301.	1.5	10
53	Coherent Power Combination in Multi-Element Sub-Terahertz Resonant Tunneling Diode Oscillators Coupled with Metal-Insulator-Metal Stub Structure. Applied Physics Express, 0, 1, 093001.	2.4	9
54	Spectral Narrowing of a Varactor-Integrated Resonant-Tunneling-Diode Terahertz Oscillator by Phase-Locked Loop. Journal of Infrared, Millimeter, and Terahertz Waves, 2017, 38, 1477-1486.	2.2	9

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55	Wide-Range Varactor-Tuned Terahertz Oscillator Using Resonant Tunneling Diode. Journal of Infrared, Millimeter, and Terahertz Waves, 2014, 35, 445-450.	2.2	8
56	Power Combination in 1 THz Resonant-Tunneling-Diode Oscillators Integrated with Patch Antennas. IEICE Transactions on Electronics, 2015, E98.C, 1131-1133.	0.6	8
57	Dependence of Output Power on Slot Antenna Width in Terahertz Oscillating Resonant Tunneling Diodes. Journal of Infrared, Millimeter, and Terahertz Waves, 2012, 33, 475-478.	2.2	7
58	Compact THz oscillators with resonant tunneling diodes and application to high-capacity wireless communications. , 2013, , .		7
59	Terahertz-wave differential detection based on simultaneous dual-wavelength up-conversion. AIP Advances, 2017, 7, 035020.	1.3	7
60	Estimation of Transit Time in Terahertz Oscillating Resonant Tunneling Diodes with Graded Emitter and Thin Barriers. IEICE Transactions on Electronics, 2012, E95-C, 401-407.	0.6	7
61	Heterodyne Mixing of Sub-Terahertz Output Power from Two Resonant Tunneling Diodes Using InP Schottky Barrier Diode. Japanese Journal of Applied Physics, 2011, 50, 080211.	1.5	6
62	High-uniformity InP-based resonant tunneling diode wafers with peak current density of over 6A—105A/cm ² grown by metal-organic vapor-phase epitaxy. Journal of Crystal Growth, 2011, 336, 24-28.	1.5	4
63	Resonant-tunneling-diode terahertz oscillator integrated with radial line slot antenna for circularly polarized wave radiation. , 2016, , .		4
64	Phase Locking and Frequency Tuning of Resonant-Tunneling-Diode Terahertz Oscillators. IEICE Transactions on Electronics, 2018, E101.C, 183-185.	0.6	4
65	Resonant-tunneling-diodeterahertz oscillator integrated with slot-coupled patch antenna. , 2014, , .		3
66	Terahertz oscillators and receivers using electron devices for high-capacity wireless communication. Proceedings of SPIE, 2015, , .	0.8	3
67	Resonant-tunneling-diode terahertz oscillators and applications. , 2016, , .		3
68	Room-temperature resonant-tunneling-diode terahertz oscillators. , 2016, , .		3
69	Oscillations at 300-400 GHz in Structure-Simplified Resonant-Tunneling-Diode Oscillators with Rectangular-Cavity Resonators. , 2021, , .		3
70	Analysis of output power characteristics for resonant-tunneling diode terahertz oscillator with cylindrical cavity resonator. Japanese Journal of Applied Physics, 2021, 60, 121002.	1.5	3
71	Structure dependence of oscillation characteristics of structure-simplified resonant-tunneling-diode terahertz oscillator. Applied Physics Express, 2022, 15, 042003.	2.4	3
72	Increase of fundamental oscillation frequency in resonant tunneling diode with thin barrier and graded emitter structures. , 2010, , .		2

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73	Array configuration using resonant-tunneling-diode terahertz oscillator integrated with patch antenna. , 2015, , .		2
74	Proposal and fabrication of dipole array antenna structure in resonant-tunneling-diode terahertz oscillator array. , 2016, , .		2
75	Terahertz Oscillators Using Resonant Tunneling Diodes. , 2018, , .		2
76	Principle of a Subcarrier Frequency-modulated Continuous-wave Radar in the Terahertz Band Using a Resonant-tunneling-diode Oscillator. , 2019, , .		2
77	Three-dimensional terahertz imaging using an amplitude-modulated resonant-tunneling-diode oscillator. , 2021, , .		2
78	Heterodyne Mixing of Sub-Terahertz Output Power from Two Resonant Tunneling Diodes Using InP Schottky Barrier Diode. Japanese Journal of Applied Physics, 2011, 50, 080211.	1.5	2
79	Intensity modulation of sub-terahertz oscillating resonant tunneling diode by irradiation of 1.55- μ m laser. , 2011, , .		1
80	Terahertz Emission from Resonant Tunneling Diodes without Satisfying Oscillation Condition. Japanese Journal of Applied Physics, 2013, 52, 100210.	1.5	1
81	Terahertz communications using resonant-tunneling-diode oscillators. , 2017, , .		1
82	Amplitude-Modulated Continuous-Wave Ranging System with Resonant- Tunneling-Diode Terahertz Oscillator. , 2018, , .		1
83	Toward a solid-state, compact, terahertz-wave radar. AIP Conference Proceedings, 2019, , .	0.4	1
84	Sensitivity Measurement of Resonant-Tunneling-Diode Terahertz Detectors. , 2019, , .		1
85	Amplitude-modulated continuous-wave radar in the terahertz band using a resonant-tunneling-diode oscillator. , 2019, , .		1
86	Hybrid optical imaging with near-infrared, mid-infrared, and terahertz wavelengths for nondestructive inspection [Invited]. Applied Optics, 2021, 60, B100.	1.8	1
87	Large-scale array of resonant-tunneling-diode terahertz oscillators for high output power at 1 THz. , 0, .		1
88	Phase Control of Injection-Locked RTD Terahertz Oscillator. , 2021, , .		1
89	Room-Temperature Terahertz Oscillation of Electron Devices. IEEJ Transactions on Fundamentals and Materials, 2011, 131, 21-24.	0.2	1
90	Fabrication of sub-micrometer 3D structures for terahertz oscillators by electron beam gray-tone lithography. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2022, 40, .	1.2	1

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91	Terahertz-wave three-dimensional imaging using a resonant-tunneling-diode oscillator. Journal of Infrared, Millimeter, and Terahertz Waves, 2022, 43, 464-478.	2.2	1
92	Coherent power combination in highly integrated resonant tunneling diode oscillators with slot antennas. , 2007, , .		0
93	Coherent power combination in multi-element sub-THz RTD oscillators coupled with MIM stub structure. , 2008, , .		0
94	Coherent power combination in multi-element sub-THz RTD oscillators coupled with MIM stub structure. , 2008, , .		0
95	Ultra-thin InAlP/InGaAs heterojunctions grown by metal-organic vapor-phase epitaxy. , 2009, , .		0
96	Resonant tunneling diodes for room-temperature terahertz oscillators. , 2013, , .		0
97	Design of terahertz leaky-wave antenna driven by resonant-tunneling diode. , 2017, , .		0
98	Nonlinear optical detection of terahertz-wave radiation from resonant-tunneling-diode oscillators. , 2017, , .		0
99	Development of Terahertz Technology by Compact Semiconductor Devices. IEICE Communications Society Magazine, 2018, 12, 183-189.	0.0	0
100	Perimeter Dependence of Oscillation Frequency Property of Resonant Tunneling Diode Terahertz Oscillator Using Split Ring Resonator. , 2021, , .		0
101	Structure Dependence of Resonant Tunneling Diode Oscillator without Metal-Insulator-Metal Capacitors. , 2021, , .		0
102	Terahertz Oscillation of Resonant Tunneling Diode and Modulation of Its Output Power with Laser Irradiation. The Review of Laser Engineering, 2012, 40, 517.	0.0	0
103	Structures and Physics of Resonant Tunneling Diodes for Terahertz Oscillators. The Review of Laser Engineering, 2017, 45, 741.	0.0	0
104	Simultaneous Nonlinear Up-Conversion of Dual-Frequency Terahertz-Wave Radiation. , 2017, , .		0
105	Terahertz-wave radars based on resonant-tunneling-diode oscillators. , 2019, , .		0
106	Impedance matching method in high-power RTD THz oscillator integrated with rectangular-cavity resonator. , 2020, , .		0
107	Analysis of Oscillation Characteristics for Resonant-Tunneling Diode Cavity-type Terahertz Oscillator. , 2020, , .		0
108	Novel RTD Oscillator with Simplified Structure and Fabrication Process. , 2020, , .		0

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109	OCT technique for distance measurement using an RTD terahertz oscillator. , 2020, , .		0
110	Resonant Tunneling Diode. Springer Series in Optical Sciences, 2022, , 285-290.	0.7	0
111	Resonant-Tunneling-Diode Terahertz Oscillator and Its Wireless Communication Application. Vacuum and Surface Science, 2022, 65, 270-275.	0.1	0