

Goutam Chattopadhyay

List of Publications by Year in descending order

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169
papers

5,529
citations

94433

37
h-index

88630

70
g-index

171
all docs

171
docs citations

171
times ranked

3555
citing authors

#	ARTICLE	IF	CITATIONS
1	THz Imaging Radar for Standoff Personnel Screening. IEEE Transactions on Terahertz Science and Technology, 2011, 1, 169-182.	3.1	802
2	Penetrating 3-D Imaging at 4- and 25-m Range Using a Submillimeter-Wave Radar. IEEE Transactions on Microwave Theory and Techniques, 2008, 56, 2771-2778.	4.6	294
3	Technology, Capabilities, and Performance of Low Power Terahertz Sources. IEEE Transactions on Terahertz Science and Technology, 2011, 1, 33-53.	3.1	237
4	A High-Resolution Imaging Radar at 580 GHz. IEEE Microwave and Wireless Components Letters, 2008, 18, 64-66.	3.2	188
5	A Submillimeter-Wave HEMT Amplifier Module With Integrated Waveguide Transitions Operating Above 300 GHz. IEEE Transactions on Microwave Theory and Techniques, 2008, 56, 1380-1388.	4.6	169
6	A Frequency-Multiplied Source With More Than 1 mW of Power Across the 840-900-GHz Band. IEEE Transactions on Microwave Theory and Techniques, 2010, 58, 1925-1932.	4.6	156
7	An All-Solid-State Broad-Band Frequency Multiplier Chain at 1500 GHz. IEEE Transactions on Microwave Theory and Techniques, 2004, 52, 1538-1547.	4.6	155
8	Multibeam by Metasurface Antennas. IEEE Transactions on Antennas and Propagation, 2017, 65, 2923-2930.	5.1	155
9	Schottky diode-based terahertz frequency multipliers and mixers. Comptes Rendus Physique, 2010, 11, 480-495.	0.9	138
10	A 540-640-GHz high-efficiency four-anode frequency tripler. IEEE Transactions on Microwave Theory and Techniques, 2005, 53, 2835-2843.	4.6	136
11	Design and Characterization of a Room Temperature All-Solid-State Electronic Source Tunable From 2.48 to 2.75 THz. IEEE Transactions on Terahertz Science and Technology, 2012, 2, 177-185.	3.1	123
12	Novel Terahertz Antenna Based on a Silicon Lens Fed by a Leaky Wave Enhanced Waveguide. IEEE Transactions on Antennas and Propagation, 2011, 59, 2160-2168.	5.1	110
13	A High-Power 105-120 GHz Broadband On-Chip Power-Combined Frequency Tripler. IEEE Microwave and Wireless Components Letters, 2015, 25, 157-159.	3.2	96
14	A New Generation of Room-Temperature Frequency-Multiplied Sources With up to 10 ³ Higher Output Power in the 160-GHz-1.6-THz Range. IEEE Transactions on Terahertz Science and Technology, 2018, 8, 596-604.	3.1	94
15	A 1.7-1.9 THz local oscillator source. IEEE Microwave and Wireless Components Letters, 2004, 14, 253-255.	3.2	90
16	Submillimeter-Wave Radar: Solid-State System Design and Applications. IEEE Microwave Magazine, 2014, 15, 51-67.	0.8	77
17	A Silicon Micromachined Eight-Pixel Transceiver Array for Submillimeter-Wave Radar. IEEE Transactions on Terahertz Science and Technology, 2015, 5, 197-206.	3.1	77
18	Demonstration of a room temperature 2.48-2.75 THz coherent spectroscopy source. Review of Scientific Instruments, 2011, 82, 093105.	1.3	75

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19	In-Phase Power-Combined Frequency Triplers at 300 GHz. IEEE Microwave and Wireless Components Letters, 2008, 18, 218-220.	3.2	74
20	Measurement of Silicon Micromachined Waveguide Components at 500–750 GHz. IEEE Transactions on Terahertz Science and Technology, 2014, 4, 33-38.	3.1	73
21	Additive Manufactured Metal-Only Modulated Metasurface Antennas. IEEE Transactions on Antennas and Propagation, 2018, 66, 6106-6114.	5.1	67
22	Advanced CubeSat Antennas for Deep Space and Earth Science Missions: A review. IEEE Antennas and Propagation Magazine, 2019, 61, 37-46.	1.4	67
23	Schottky Diode Based 1.2 THz Receivers Operating at Room-Temperature and Below for Planetary Atmospheric Sounding. IEEE Transactions on Terahertz Science and Technology, 2014, 4, 661-669.	3.1	65
24	<title>Bolocam: a millimeter-wave bolometric camera</title>. , 1998, , .		62
25	Title is missing!. Journal of Infrared, Millimeter and Terahertz Waves, 2003, 24, 261-284.	0.6	62
26	Silicon Micromachined Lens Antenna for THz Integrated Heterodyne Arrays. IEEE Transactions on Terahertz Science and Technology, 2013, 3, 515-523.	3.1	57
27	Silicon Micromachined Canonical E -Plane and H -Plane Bandpass Filters at the Terahertz Band. IEEE Microwave and Wireless Components Letters, 2013, 23, 288-290.	3.2	56
28	ANTENNA-COUPLED TES BOLOMETERS USED IN BICEP2, Keck Array, AND SPIDER. Astrophysical Journal, 2015, 812, 176.	4.5	53
29	Micromachined Packaging for Terahertz Systems. Proceedings of the IEEE, 2017, 105, 1139-1150.	21.3	52
30	Noise Stability of SIS Receivers. Journal of Infrared, Millimeter and Terahertz Waves, 2000, 21, 689-716.	0.6	49
31	A 500–750 GHz RF MEMS Waveguide Switch. IEEE Transactions on Terahertz Science and Technology, 2017, 7, 326-334.	3.1	49
32	An Approach for Sub-Second Imaging of Concealed Objects Using Terahertz (THz) Radar. Journal of Infrared, Millimeter, and Terahertz Waves, 2009, 30, 1297.	2.2	46
33	Electro-Thermal Model for Multi-Anode Schottky Diode Multipliers. IEEE Transactions on Terahertz Science and Technology, 2012, 2, 290-298.	3.1	41
34	A Multistep DRIE Process for Complex Terahertz Waveguide Components. IEEE Transactions on Terahertz Science and Technology, 2016, , 1-6.	3.1	41
35	Beam Scanning of Silicon Lens Antennas Using Integrated Piezomotors at Submillimeter Wavelengths. IEEE Transactions on Terahertz Science and Technology, 2019, 9, 47-54.	3.1	41
36	A broadband 800 GHz Schottky balanced doubler. IEEE Microwave and Wireless Components Letters, 2002, 12, 117-118.	3.2	40

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37	1.9-THz Multiflare Angle Horn Optimization for Space Instruments. IEEE Transactions on Terahertz Science and Technology, 2015, 5, 914-921.	3.1	40
38	Terahertz Sources Based on Frequency Multiplication and Their Applications. Frequenz, 2008, 62, 118-122.	0.9	37
39	Submillimeter-Wave 3.3-bit RF MEMS Phase Shifter Integrated in Micromachined Waveguide. IEEE Transactions on Terahertz Science and Technology, 2016, , 1-10.	3.1	37
40	Development of a Wideband Compact Orthomode Transducer for the 180-270 GHz Band. IEEE Transactions on Terahertz Science and Technology, 2014, 4, 634-636.	3.1	33
41	Local oscillator chain for 1.55 to 1.75THz with 100-/spl mu/W peak power. IEEE Microwave and Wireless Components Letters, 2005, 15, 871-873.	3.2	32
42	Development of Silicon Micromachined Microlens Antennas at 1.9 THz. IEEE Transactions on Terahertz Science and Technology, 2017, 7, 191-198.	3.1	32
43	A 275-425-GHz Tunerless Waveguide Receiver Based on AlN-Barrier SIS Technology. IEEE Transactions on Microwave Theory and Techniques, 2007, 55, 2086-2096.	4.6	29
44	Design Guidelines for a Terahertz Silicon Micro-Lens Antenna. IEEE Antennas and Wireless Propagation Letters, 2013, 12, 84-87.	4.0	29
45	A Grating-Based Circular Polarization Duplexer for Submillimeter-Wave Transceivers. IEEE Microwave and Wireless Components Letters, 2012, 22, 108-110.	3.2	28
46	Low-Loss NbTiN Films for THz SIS Mixer Tuning Circuits. Journal of Infrared, Millimeter and Terahertz Waves, 1998, 19, 373-383.	0.6	27
47	Tunable broadband frequency-multiplied terahertz sources. , 2008, , .		27
48	A 600 GHz Asymmetrical Orthogonal Mode Transducer. IEEE Microwave and Wireless Components Letters, 2013, 23, 569-571.	3.2	27
49	Wideband Multimode Leaky-Wave Feed for Scanning Lens-Phased Array at Submillimeter Wavelengths. IEEE Transactions on Terahertz Science and Technology, 2021, 11, 205-217.	3.1	27
50	Feed horn coupled bolometer arrays for spire-design, simulations, and measurements. IEEE Transactions on Microwave Theory and Techniques, 2003, 51, 2139-2146.	4.6	26
51	Design and Performance of SuperSpec: An On-Chip, KID-Based, mm-Wavelength Spectrometer. Journal of Low Temperature Physics, 2014, 176, 657-662.	1.4	26
52	A 183-GHz InP/CMOS-Hybrid Heterodyne-Spectrometer for Spaceborne Atmospheric Remote Sensing. IEEE Transactions on Terahertz Science and Technology, 2019, 9, 313-334.	3.1	25
53	Evaluation of 3D printing technology for corrugated horn antenna manufacturing. , 2016, , .		23
54	Design, fabrication and testing of a modulated metasurface antenna at 300 GHz. , 2017, , .		23

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55	Numerical optimization of integrating cavities for diffraction-limited millimeter-wave bolometer arrays. Applied Optics, 2002, 41, 136.	2.1	22
56	16:1 bandwidth two-layer antireflection structure for silicon matched to the 190–310 GHz atmospheric window. Applied Optics, 2018, 57, 5196.	1.8	22
57	Micromachining for Advanced Terahertz: Interconnects and Packaging Techniques at Terahertz Frequencies. IEEE Microwave Magazine, 2020, 21, 18-34.	0.8	22
58	A dual-polarized quasi-optical SIS mixer at 550 GHz. IEEE Transactions on Microwave Theory and Techniques, 2000, 48, 1680-1686.	4.6	21
59	Terahertz antenna arrays with silicon micromachined-based microlens antenna and corrugated horns. , 2015, , .		20
60	Multibeam Si/GaAs Holographic Metasurface Antenna at W -Band. IEEE Transactions on Antennas and Propagation, 2021, 69, 3523-3528.	5.1	20
61	Terahertz frequency multiplier chains based on planar Schottky diodes. , 2003, , .		19
62	A 600 GHz imaging radar for concealed objects detection. , 2009, , .		19
63	Time-Delay Multiplexing of Two Beams in a Terahertz Imaging Radar. IEEE Transactions on Microwave Theory and Techniques, 2010, 58, 1999-2007.	4.6	19
64	Submillimeter-Wave 90° Notation TeX Polarization Twists for Integrated Waveguide Circuits. IEEE Microwave and Wireless Components Letters, 2010, 20, 592-594.	3.2	19
65	Deep Reactive Ion Etching based silicon micromachined components at terahertz frequencies for space applications. , 2008, , .		18
66	Compact Duplexing for a 680-GHz Radar Using a Waveguide Orthomode Transducer. IEEE Transactions on Microwave Theory and Techniques, 2014, 62, 2833-2842.	4.6	18
67	A 700-GHz MEMS Waveguide Switch. IEEE Transactions on Terahertz Science and Technology, 2016, 6, 641-643.	3.1	18
68	Development of SIS mixers for 1 THz. , 1998, , .		17
69	Terahertz local oscillator sources: performance and capabilities. , 2003, , .		17
70	A K_u -Band CMOS FMCW Radar Transceiver for Snowpack Remote Sensing. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 2480-2494.	4.6	17
71	A Low Noise NbTiN-Based 850 GHz SIS Receiver for the Caltech Submillimeter Observatory. Journal of Infrared, Millimeter and Terahertz Waves, 2000, 21, 1357-1373.	0.6	15
72	Optical Measurements of SuperSpec: A Millimeter-Wave On-Chip Spectrometer. Journal of Low Temperature Physics, 2014, 176, 841-847.	1.4	15

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73	A class of silicon micromachined metasurface for the design of high-gain terahertz antennas. , 2016, , .		15
74	DDFS and Î” Approaches for Fractional Frequency Synthesis in Terahertz Instruments. IEEE Transactions on Terahertz Science and Technology, 2018, 8, 410-417.	3.1	14
75	Design and performance of feedhorn-coupled bolometer arrays for SPIRE. , 2003, , .		13
76	SuperSpec: design concept and circuit simulations. Proceedings of SPIE, 2012, , .	0.8	13
77	CMOS system-on-chip techniques in millimeter-wave/THz instruments and communications for planetary exploration. , 2016, 54, 176-182.		13
78	A 177â€“205 GHz 249 mW CMOS-Based Integer-N Frequency Synthesizer Module for Planetary Exploration. IEEE Transactions on Terahertz Science and Technology, 2018, 8, 251-254.	3.1	13
79	Heterodyne instrumentation upgrade at the Caltech Submillimeter Observatory. , 2004, , .		12
80	Millimeter-wave wireless power transfer technology for space applications. , 2008, , .		12
81	Array technology for terahertz imaging. Proceedings of SPIE, 2012, , .	0.8	12
82	Silicon micromachined waveguide components at 0.75 to 1.1 THz. , 2014, , .		12
83	Frequency tunable electronic sources working at room temperature in the 1 to 3 THz band. Proceedings of SPIE, 2012, , .	0.8	11
84	A 2.2 GS/s 188mW spectrometer processor in 65nm CMOS for supporting low-power THz planetary instruments. , 2015, , .		11
85	A Dual-Output 550 GHz frequency tripler featuring ultra-compact silicon micromachining packaging and enhanced power-handling capabilities. , 2015, , .		11
86	A WR4 Amplifier Module Chain With an 87 K Noise Temperature at 228 GHz. IEEE Microwave and Wireless Components Letters, 2015, 25, 58-60.	3.2	11
87	A 230 GHz MMIC-Based Sideband Separating Receiver. IEEE Transactions on Terahertz Science and Technology, 2016, 6, 141-147.	3.1	11
88	Shared aperture metasurface antennas for multibeam patterns. , 2017, , .		10
89	A Low-Loss Silicon MEMS Phase Shifter Operating in the 550-GHz Band. IEEE Transactions on Terahertz Science and Technology, 2021, 11, 477-485.	3.1	10
90	Planar antenna arrays for CMB polarization detection. , 2007, , .		9

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91	Radiometer-on-a-chip: a path toward super-compact submillimeter-wave imaging arrays. , 2010, , .		9
92	Terahertz science, technology, and communication. , 2012, , .		9
93	Silicon micromachining for terahertz component development. , 2013, , .		9
94	Efficient CMOS Systems With Beam-Steering Interconnects for Space Instruments. IEEE Transactions on Terahertz Science and Technology, 2015, 5, 637-644.	3.1	9
95	180-GHz Pulsed CMOS Transmitter for Molecular Sensing. IEEE Transactions on Terahertz Science and Technology, 2021, 11, 469-476.	3.1	9
96	High power local oscillator sources for 1-2 THz. , 2010, , .		8
97	InP HEMT integrated circuits for Submillimeter Wave radiometers in earth remote sensing. , 2012, , .		8
98	Transceiver array development for submillimeter-wave imaging radars. , 2013, , .		8
99	Multiple beam shared aperture modulated metasurface antennas. , 2016, , .		8
100	Submillimeter InP MMIC Low-Noise Amplifier Gain Stability Characterization. IEEE Transactions on Terahertz Science and Technology, 2017, 7, 335-346.	3.1	8
101	Point-Spread-Function (PSF) Characterization of a 340-GHz Imaging Radar Using Acoustic Levitation. IEEE Transactions on Terahertz Science and Technology, 2019, 9, 20-26.	3.1	8
102	An Optical System for Body Imaging from a Distance Using Near-TeraHertz Frequencies. Journal of Low Temperature Physics, 2008, 151, 777-783.	1.4	7
103	Broadband sources in the 1–3 THz range. , 2009, , .		7
104	A waveguide orthomode transducer for 385-500 GHz. Proceedings of SPIE, 2010, , .	0.8	7
105	A 65nm CMOS 140 GHz 27.3 dBm EIRP transmit array with membrane antenna for highly scalable multi-chip phase arrays. , 2014, , .		7
106	Submillimeter-Wave Coherent and Incoherent Sensors for Space Applications. Lecture Notes in Electrical Engineering, 2008, , 387-414.	0.4	7
107	Two-Port Vector Network Analyzer Measurements Up to 508 GHz. IEEE Transactions on Instrumentation and Measurement, 2008, 57, 1166-1170.	4.7	6
108	A 170–280 GHz InP HEMT low noise amplifier. , 2014, , .		6

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109	Frequency multiplier response to spurious signals and its effect on local oscillator systems in millimeter and submillimeter wavelengths. , 2003, , .		5
110	Capability of broadband solid-state room-temperature coherent sources in the terahertz range. , 2014, , .		5
111	Terahertz antennas with silicon micromachined front-end. , 2014, , .		5
112	Micro-lens antenna integrated in a silicon micromachined receiver at 1.9 THz. , 2016, , .		5
113	Title is missing!. Journal of Infrared, Millimeter and Terahertz Waves, 2003, 24, 1485-1498.	0.6	4
114	In-phase power combining of submillimeter-wave multipliers. , 2008, , .		4
115	Concealed object contrast enhancement using radar methods in a submillimeter-wave active imager. , 2008, , .		4
116	Local oscillator sub-systems for array receivers in the 1-3 THz range. , 2012, , .		4
117	Curvature control of silicon microlens for THz dielectric antenna. , 2012, , .		4
118	Terahertz array receivers with integrated antennas. , 2012, , .		4
119	Cryogenic performance of HEMT amplifiers at 340GHz and 670GHz. , 2014, , .		4
120	6.4 mm Diameter silicon micromachined lens for THz dielectric antenna. , 2014, , .		4
121	A 95 GHz centimeter scale precision confined pathway system-on-chip navigation processor for autonomous vehicles in 65nm CMOS. , 2015, , .		4
122	Development of W-band horn antennas using 3D printing technologies. , 2016, , .		4
123	Thermal Characterization of Substrate Options for High-Power THz Multipliers Over a Broad Temperature Range. IEEE Transactions on Terahertz Science and Technology, 2016, 6, 328-335.	3.1	4
124	Terahertz Antennas and Feeds. Signals and Communication Technology, 2018, , 335-386.	0.5	4
125	A Compact Room-Temperature 510â€“560 GHz Frequency Tripler with 30-mW Output Power. , 2018, , .		4
126	Retrieval of wind, temperature, water vapor and other trace constituents in the Martian Atmosphere. Planetary and Space Science, 2018, 161, 26-40.	1.7	4

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127	Multilayer Etched Antireflective Structures for Silicon Vacuum Windows. Journal of Low Temperature Physics, 2020, 199, 935-942.	1.4	4
128	Quantum Limited SIS Receiver Technology for the Detection of Water Isotopologue Emission From Comets. IEEE Transactions on Terahertz Science and Technology, 2020, 10, 569-582.	3.1	4
129	Sub-Orbital Flight Demonstration of a 183/540-600 GHz Hybrid CMOS-InP and CMOS-Schottky-MEMS Limb-Sounder. IEEE Journal of Microwaves, 2021, 1, 560-573.	6.5	4
130	Cryogenic amplifier based receivers at submillimeter wavelengths. , 2012, , .		3
131	A 340 GHz cryogenic amplifier based spectrometer for space based atmospheric science applications. , 2017, , .		3
132	Efficiency Optimization of Spherical Reflectors by Feed Position Adjustment. IEEE Antennas and Wireless Propagation Letters, 2017, , 1-1.	4.0	3
133	Terahertz Instruments for CubeSats. , 2017, , .		3
134	A 460 GHz MEMS-Based Single-Pole Double-Throw Waveguide Switch. , 2018, , .		3
135	Flat Low-Loss Silicon Gradient Index Lens for Millimeter and Submillimeter Wavelengths. Journal of Low Temperature Physics, 2020, 199, 376-383.	1.4	3
136	Large Array of Single-Photon Counting Quantum Capacitance Detectors. IEEE Transactions on Terahertz Science and Technology, 2022, 12, 211-216.	3.1	3
137	Sensitive broadband SIS receivers for microwave limb sounding. , 2008, , .		2
138	Micro-lens antenna for integrated THz arrays. , 2010, , .		2
139	Silicon micromachined microlens array for THz antenna. , 2011, , .		2
140	A tandem coupler for terahertz integrated circuits. , 2013, , .		2
141	Terahertz circuits, systems, and imaging instruments. , 2014, , .		2
142	Silicon micromachined terahertz spectrometer instruments. , 2016, , .		2
143	Corrugated (2 Å– 2) silicon platelets horn antenna array at 560 GHz. , 2017, , .		2
144	670 GHz FMCW radar for imaging and science applications. , 2017, , .		2

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145	A Compact Room-Temperature 510-560 GHz Frequency Tripler with 30-mW Output Power. , 2018, , .		2
146	A Programmable Cryogenic Waveguide Calibration Load With Exceptional Temporal Response and Linearity. IEEE Transactions on Terahertz Science and Technology, 2018, 8, 434-445.	3.1	2
147	Metal-only modulated metasurface antenna for Cubesat platforms. , 2019, , .		2
148	From microwaves to submillimeter waves: modern advances in computational imaging, radar, and future trends. , 2019, , .		2
149	Guest Editorial: Special Cluster on Recent Advances in Antennas for Earth and Planetary Science. IEEE Antennas and Wireless Propagation Letters, 2021, 20, 2083-2084.	4.0	2
150	Terahertz antenna for arrays of hundreds of pixels. , 2012, , .		1
151	Efficient analysis of metasurfaces in a planar layered medium. , 2015, , .		1
152	Silicon micromachined components at 1THz and beyond. , 2016, , .		1
153	Interconnect and packaging technologies for terahertz communication systems. , 2017, , .		1
154	Some recent developments on modulated metasurface antennas. , 2019, , .		1
155	Dual Local Oscillator SIS Receiver for Simultaneous Observations of Water Isotopologues in the Solar System. IEEE Transactions on Terahertz Science and Technology, 2021, 11, 183-193.	3.1	1
156	THz Heterodyne Imaging Applications, Instruments and Directions. , 2008, , .		0
157	Design of a two-pixel 670 GHz imaging radar using a single Tx/Rx module. Digest / IEEE Antennas and Propagation Society International Symposium, 2009, , .	0.0	0
158	Imaging at a stand-off distance with terahertz FMCW radar. , 2011, , .		0
159	A 94 GHz multi-casting data-link based on 3-D printing compatible dielectric ribbon interconnects. , 2014, , .		0
160	Terahertz antennas and related optical components. , 2015, , .		0
161	Cryogenic amplifier based sideband separating receivers. , 2015, , .		0
162	A 640 GHz MMIC-based sideband-separating receiver for atmospheric science. , 2016, , .		0

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163	Antireflective textured silicon optics at millimeter and submillimeter wavelengths. , 2017, , .		0
164	Fabrication of Devices and Antennas for Millimeter-Wave and Terahertz Systems. , 2019, , .		0
165	Design of a Quasi-Optical Si/GaAs W-Band Beam-Forming Metasurface Antenna. , 2019, , .		0
166	Towards a Si/GaAs Based Flat-Panel Quasi-Optical Metasurface Antenna with Switchable Beam Characteristics. , 2020, , .		0
167	Interconnects Over 100 GHz [From the Guest Editors' Desk]. IEEE Microwave Magazine, 2020, 21, 17-124.	0.8	0
168	Beam resolution analysis of a 340 GHz radar using acoustic levitation. , 2019, , .		0
169	Loss Studies For Waveguide Based E- and H-plane Bandpass Filters at Terahertz Frequencies. , 2021, , .		0