

John F Federici

List of Publications by Year in descending order

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Version: 2024-02-01

130
papers

5,638
citations

147801

31
h-index

79698

73
g-index

131
all docs

131
docs citations

131
times ranked

4782
citing authors

| # | ARTICLE | IF | CITATIONS |
|----|---|-----|-----------|
| 1 | THz imaging and sensing for security applications—explosives, weapons and drugs. <i>Semiconductor Science and Technology</i> , 2005, 20, S266-S280. | 2.0 | 1,517 |
| 2 | Review of terahertz and subterahertz wireless communications. <i>Journal of Applied Physics</i> , 2010, 107, . | 2.5 | 917 |
| 3 | Coherent terahertz radiation detection: Direct comparison between free-space electro-optic sampling and antenna detection. <i>Applied Physics Letters</i> , 1998, 73, 444-446. | 3.3 | 145 |
| 4 | Charge generation, charge transport, and residual charge in the electrospinning of polymers: A review of issues and complications. <i>Journal of Applied Physics</i> , 2012, 111, . | 2.5 | 141 |
| 5 | Design and performance of singular electric field terahertz photoconducting antennas. <i>Applied Physics Letters</i> , 1997, 71, 2076-2078. | 3.3 | 123 |
| 6 | Terahertz study of 1,3,5-trinitro-s-triazine by time-domain and Fourier transform infrared spectroscopy. <i>Applied Physics Letters</i> , 2004, 85, 5535-5537. | 3.3 | 120 |
| 7 | Interferometric characterization of 160 fs far-infrared light pulses. <i>Applied Physics Letters</i> , 1991, 59, 893-895. | 3.3 | 115 |
| 8 | Terahertz pulse propagation through small apertures. <i>Applied Physics Letters</i> , 2001, 79, 907-909. | 3.3 | 115 |
| 9 | Terahertz near-field microscopy based on a collection mode detector. <i>Applied Physics Letters</i> , 2000, 77, 3496-3498. | 3.3 | 114 |
| 10 | Review of Moisture and Liquid Detection and Mapping using Terahertz Imaging. <i>Journal of Infrared, Millimeter, and Terahertz Waves</i> , 2012, 33, 97-126. | 2.2 | 113 |
| 11 | Collection-mode near-field imaging with 0.5-THz pulses. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2001, 7, 600-607. | 2.9 | 108 |
| 12 | Flexible membrane pressure sensor. <i>Sensors and Actuators A: Physical</i> , 2005, 119, 332-335. | 4.1 | 82 |
| 13 | Picosecond pump and probe spectroscopy utilizing freely propagating terahertz radiation. <i>Optics Letters</i> , 1991, 16, 48. | 3.3 | 81 |
| 14 | Experimental comparison of terahertz and infrared data signal attenuation in dust clouds. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2012, 29, 2360. | 1.5 | 81 |
| 15 | Intervalley scattering in GaAs and InP probed by pulsed far-infrared transmission spectroscopy. <i>Applied Physics Letters</i> , 1992, 60, 1477-1479. | 3.3 | 80 |
| 16 | Experimental comparison of performance degradation from terahertz and infrared wireless links in fog. <i>Journal of the Optical Society of America A: Optics and Image Science, and Vision</i> , 2012, 29, 179. | 1.5 | 73 |
| 17 | Review of weather impact on outdoor terahertz wireless communication links. <i>Nano Communication Networks</i> , 2016, 10, 13-26. | 2.9 | 68 |
| 18 | Fabrication of rechargeable lithium ion batteries using water-based inkjet printed cathodes. <i>Journal of Manufacturing Processes</i> , 2015, 20, 198-205. | 5.9 | 60 |

| # | ARTICLE | IF | CITATIONS |
|----|---|------|-----------|
| 19 | Terahertz imaging using an interferometric array. Applied Physics Letters, 2003, 83, 2477-2479. | 3.3 | 59 |
| 20 | 2.5 Gbit/s duobinary signalling with narrow bandwidth 0.625 terahertz source. Electronics Letters, 2011, 47, 856. | 1.0 | 59 |
| 21 | Data encoding on terahertz signals for communication and sensing. Optics Letters, 2008, 33, 393. | 3.3 | 58 |
| 22 | Rapid-phase modulation of terahertz radiation for high-speed terahertz imaging and spectroscopy. Optics Letters, 2008, 33, 1593. | 3.3 | 58 |
| 23 | Near-field microscope probe for far infrared time domain measurements. Applied Physics Letters, 2000, 77, 591-593. | 3.3 | 57 |
| 24 | Γ to X transport of photoexcited electrons in type II GaAs/AlAs multiple quantum well structures. Applied Physics Letters, 1989, 54, 1681-1683. | 3.3 | 56 |
| 25 | Nondestructive evaluation of cork enclosures using terahertz/millimeter wave spectroscopy and imaging. Applied Optics, 2008, 47, 72. | 2.1 | 55 |
| 26 | Effects of Scattering on THz Spectra of Granular Solids. Journal of Infrared, Millimeter and Terahertz Waves, 2007, 28, 969-978. | 0.6 | 53 |
| 27 | Experimental Comparison of Terahertz and Infrared Signaling in Controlled Atmospheric Turbulence. Journal of Infrared, Millimeter, and Terahertz Waves, 2015, 36, 130-143. | 2.2 | 46 |
| 28 | Log-periodic antennas for pulsed terahertz radiation. Applied Physics Letters, 1991, 59, 262-264. | 3.3 | 44 |
| 29 | THz wireless communications: 2.5 Gb/s error-free transmission at 625 GHz using a narrow-bandwidth 1 mW THz source. , 2011, , . | | 42 |
| 30 | Defect mechanism of photoinduced superconductivity in YBa ₂ Cu ₃ O _{6+x} . Physical Review B, 1995, 52, 15592-15597. | 3.2 | 40 |
| 31 | Terahertz interferometric and synthetic aperture imaging. Journal of the Optical Society of America A: Optics and Image Science, and Vision, 2006, 23, 1168. | 1.5 | 40 |
| 32 | Direct picosecond measurement of photoinduced Cooper-pair breaking in lead. Physical Review B, 1992, 46, 11153-11156. | 3.2 | 35 |
| 33 | Study of single-cycle pulse propagation inside a terahertz near-field probe. Applied Physics Letters, 2001, 78, 252-254. | 3.3 | 32 |
| 34 | Terahertz Quantum Cryptography. IEEE Journal on Selected Areas in Communications, 2020, 38, 483-495. | 14.0 | 30 |
| 35 | Optical and electronic characteristics of single walled carbon nanotubes and silicon nanoclusters by terahertz spectroscopy. Journal of Applied Physics, 2004, 96, 6685-6689. | 2.5 | 29 |
| 36 | Terahertz near-field interferometric and synthetic aperture imaging. , 2004, , . | | 27 |

| # | ARTICLE | IF | CITATIONS |
|----|--|------|-----------|
| 37 | Experimental Comparison of Terahertz and Infrared Signaling in Laboratory-Controlled Rain. Journal of Infrared, Millimeter, and Terahertz Waves, 2015, 36, 856-865. | 2.2 | 27 |
| 38 | Stochastic Interference Modeling and Experimental Validation for Pulse-Based Terahertz Communication. IEEE Transactions on Wireless Communications, 2019, 18, 4103-4115. | 9.2 | 27 |
| 39 | Elimination of Fresnel Reflection Boundary Effects and Beam Steering in Pulsed Terahertz Computed Tomography. Journal of Infrared, Millimeter, and Terahertz Waves, 2013, 34, 539-555. | 2.2 | 26 |
| 40 | Optical characterization of excited states in BaBiO ₃ . Physical Review B, 1990, 42, 923-926. | 3.2 | 25 |
| 41 | Terahertz near-field imaging. Physics in Medicine and Biology, 2002, 47, 3727-3734. | 3.0 | 24 |
| 42 | Fabrication of a Flexible Current Collector for Lithium Ion Batteries by Inkjet Printing. Batteries, 2018, 4, 42. | 4.5 | 24 |
| 43 | Measurement of skin stretch via light reflection. Journal of Biomedical Optics, 2003, 8, 80. | 2.6 | 23 |
| 44 | Application of terahertz Gouy phase shift from curved surfaces for estimation of crop yield. Applied Optics, 2009, 48, 1382. | 2.1 | 23 |
| 45 | Comparison of Experimental and Theoretical Determined Terahertz Attenuation in Controlled Rain. Journal of Infrared, Millimeter, and Terahertz Waves, 2015, 36, 1195-1202. | 2.2 | 23 |
| 46 | Analytical solution for photonic band-gap crystals using Drude conductivity. American Journal of Physics, 2004, 72, 1051-1054. | 0.7 | 20 |
| 47 | Inkjet printable constantan ink for the fabrication of flexible and conductive film. Chemical Engineering Journal, 2017, 313, 27-36. | 12.7 | 20 |
| 48 | Terahertz Attenuation in Snow and Sleet. Journal of Infrared, Millimeter, and Terahertz Waves, 2019, 40, 868-877. | 2.2 | 20 |
| 49 | Review of four-wave mixing and phase conjugation in plasmas. IEEE Transactions on Plasma Science, 1991, 19, 549-564. | 1.3 | 19 |
| 50 | <title>THz standoff detection and imaging of explosives and weapons (Invited Paper)</title>. , 2005, 5781, 75. | | 19 |
| 51 | THz standoff detection and imaging of explosives and weapons. , 2005, , . | | 18 |
| 52 | Non-Destructive Measurement of Water Diffusion in Natural Cork Enclosures Using Terahertz Spectroscopy and Imaging. Journal of Infrared, Millimeter, and Terahertz Waves, 2011, 32, 513-527. | 2.2 | 18 |
| 53 | Photolithographic patterning of porous silicon using silicon nitride and silicon carbide masks. Materials Letters, 1995, 23, 209-214. | 2.6 | 17 |
| 54 | Noninvasive light-reflection technique for measuring soft-tissue stretch. Applied Optics, 1999, 38, 6653. | 2.1 | 17 |

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|----|--|-----|-----------|
| 55 | An integrated photonic sensor for in situ monitoring of hazardous organics. <i>Sensors and Actuators B: Chemical</i> , 2003, 92, 121-126. | 7.8 | 17 |
| 56 | Detection of explosives by Terahertz synthetic aperture imaging—focusing and spectral classification. <i>Comptes Rendus Physique</i> , 2008, 9, 248-261. | 0.9 | 16 |
| 57 | RDX Detection with THz Spectroscopy. <i>Journal of Infrared, Millimeter, and Terahertz Waves</i> , 2010, 31, 1171-1181. | 2.2 | 16 |
| 58 | Characterization of laser ablated silicon thin films. <i>Thin Solid Films</i> , 1999, 339, 102-108. | 1.8 | 15 |
| 59 | Infrared quenching of photoinduced persistent conductivity in YBa ₂ Cu ₃ O _{6+x} . <i>Applied Physics Letters</i> , 1996, 69, 3260-3262. | 3.3 | 14 |
| 60 | Inkjet printing colorimetric controllable and reversible poly-PCDA/ZnO composites. <i>Sensors and Actuators B: Chemical</i> , 2014, 203, 320-326. | 7.8 | 14 |
| 61 | Neural network analysis of terahertz spectra of explosives and bio-agents. , 2003, 5070, 60. | | 13 |
| 62 | T-rays vs. terrorists. <i>IEEE Spectrum</i> , 2007, 44, 47-52. | 0.7 | 13 |
| 63 | Two-dimensional interferometric and synthetic aperture imaging with a hybrid terahertz/ millimeter wave system. <i>Applied Optics</i> , 2010, 49, E13. | 2.1 | 13 |
| 64 | Comparison of thermal decomposition and chemical reduction of particle-free silver ink for inkjet printing. <i>Thin Solid Films</i> , 2017, 636, 397-402. | 1.8 | 13 |
| 65 | Reversible chromatic sensor fabricated by inkjet printing TCDA-ZnO on a paper substrate. <i>Sensors and Actuators B: Chemical</i> , 2014, 193, 10-18. | 7.8 | 12 |
| 66 | Eavesdropping Risk Evaluation on Terahertz Wireless Channels in Atmospheric Turbulence. <i>IEEE Access</i> , 2021, 9, 101916-101923. | 4.2 | 12 |
| 67 | THz reflection spectroscopy of C-4 explosive and its detection through interferometric imaging. , 2006, 6120, 58. | | 10 |
| 68 | Thermochromism in Polydiacetylene—ZnO Nanocomposites. <i>Journal of Physical Chemistry C</i> , 2013, , 130913150834008. | 3.1 | 10 |
| 69 | Local structural and electronic changes accompanying photodoping in YBa ₂ Cu ₃ O _{6+x} . <i>Physica C: Superconductivity and Its Applications</i> , 1997, 292, 163-170. | 1.2 | 9 |
| 70 | Analysis of terahertz spectral images of explosives and bioagents using trained neural networks. , 2004, , . | | 9 |
| 71 | Determining thickness independently from optical constants by use of ultrafast light. <i>Optics Letters</i> , 2004, 29, 2435. | 3.3 | 9 |
| 72 | Video-rate terahertz interferometric and synthetic aperture imaging. <i>Applied Optics</i> , 2009, 48, 3788. | 2.1 | 9 |

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| 73 | Terahertz response of microfluidic-jetted three-dimensional flexible metamaterials. Applied Optics, 2010, 49, 1179. | 2.1 | 9 |
| 74 | Hybrid Er-doped fibre amplifiers at 980â€“1480 nm for long distance optical communications. Electronics Letters, 1992, 28, 1642. | 1.0 | 8 |
| 75 | ARTIFICIAL NEURAL NETWORK ANALYSIS IN INTERFEROMETRIC THz IMAGING FOR DETECTION OF LETHAL AGENTS. Journal of Infrared, Millimeter and Terahertz Waves, 2007, 27, 1145-1158. | 0.6 | 8 |
| 76 | Weather Impact on Outdoor Terahertz Wireless Links. , 2015, , . | | 8 |
| 77 | Comparison of Terahertz, Microwave, and Laser Power Beaming Under Clear and Adverse Weather Conditions. Journal of Infrared, Millimeter, and Terahertz Waves, 2020, 41, 979-996. | 2.2 | 8 |
| 78 | Wavelength and photon dose dependence of infrared quenched persistent photoconductivity inYBa2Cu3O6+x. Physical Review B, 1999, 60, 6827-6833. | 3.2 | 6 |
| 79 | Terahertz imaging using an interferometric array. , 2005, , . | | 6 |
| 80 | Terahertz interferometric imaging of a concealed object. , 2006, , . | | 6 |
| 81 | Detection of Explosives by Terahertz Imaging. , 2007, , 323-366. | | 6 |
| 82 | Terahertz study of trichloroanisole by time-domain spectroscopy. Chemical Physics, 2008, 353, 185-188. | 1.9 | 6 |
| 83 | Optical Science and Engineering Curriculum at NJIT. Journal of Engineering Education, 1998, 87, 575-582. | 3.0 | 5 |
| 84 | Cellular automata model for persistent photoconductivity in YBCO. Journal of Physics Condensed Matter, 2000, 12, L261-L267. | 1.8 | 5 |
| 85 | Grain size dependent scattering studies of common materials using THz time domain techniques. , 2006, 6120, 117. | | 5 |
| 86 | Thermally activated infrared-active vibrational mode inBaBiO3. Physical Review B, 1991, 43, 8617-8619. | 3.2 | 4 |
| 87 | Cooper pair breaking in lead measured by pulsed terahertz spectroscopy. IEEE Transactions on Applied Superconductivity, 1993, 3, 1461-1464. | 1.7 | 4 |
| 88 | Charge-distributions in YuPr1âˆ“uBa2Cu3Ox. Physica C: Superconductivity and Its Applications, 1994, 235-240, 2161-2162. | 1.2 | 4 |
| 89 | Terahertz interferometric imaging of RDX. , 2007, , . | | 4 |
| 90 | Study of structural defects inside natural cork by pulsed terahertz tomography. , 2011, , . | | 4 |

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|-----|---|-----|-----------|
| 91 | Effect of alkyl chain length on chemical sensing of polydiacetylene and polydiacetylene/ZnO nanocomposites. <i>Colloid and Polymer Science</i> , 2014, 292, 3137-3146. | 2.1 | 4 |
| 92 | Non-destructive comparative evaluation of fossil amber using terahertz time-domain spectroscopy. <i>PLoS ONE</i> , 2022, 17, e0262983. | 2.5 | 4 |
| 93 | Noninvasive Study of Explosive Materials by Time Domain Spectroscopy and FTIR. <i>AIP Conference Proceedings</i> , 2005, , . | 0.4 | 3 |
| 94 | Propagation studies for indoor and outdoor terahertz wireless links. , 2019, , . | | 3 |
| 95 | Effect of 3D Printing Parameters on the Refractive Index, Attenuation Coefficient, and Birefringence of Plastics in Terahertz Range. <i>Advances in Materials Science and Engineering</i> , 2021, 2021, 1-9. | 1.8 | 3 |
| 96 | The feasibility of C. W. degenerate four-wave mixing in the far-infrared to millimeter region using an artificial Kerr medium. <i>Journal of Infrared, Millimeter and Terahertz Waves</i> , 1988, 9, 419-442. | 0.6 | 2 |
| 97 | Four-wave mixing and phase conjugation in plasmas using ionization nonlinearities. <i>Physical Review A</i> , 1991, 44, 5158-5172. | 2.5 | 2 |
| 98 | Lighting up erbium with water: Observation of substantial crystalline matrix element enhancements. <i>Journal of Applied Physics</i> , 2001, 90, 2678-2682. | 2.5 | 2 |
| 99 | Polarized light reflection from strained sinusoidal surfaces. <i>Applied Optics</i> , 2003, 42, 5198. | 2.1 | 2 |
| 100 | Characteristics of nanoscale composites by terahertz spectroscopy. , 2003, , . | | 2 |
| 101 | Optical properties around resonance peaks by THz-TDS. , 2004, , . | | 2 |
| 102 | Characterization of hollow polycarbonate metal waveguides using Terahertz time domain spectroscopy. , 2006, , . | | 2 |
| 103 | Terahertz interferometric and synthetic aperture imaging. , 2006, 6212, 279. | | 2 |
| 104 | TERAHERTZ INTERFEROMETRIC AND SYNTHETIC APERTURE IMAGING. <i>International Journal of High Speed Electronics and Systems</i> , 2007, 17, 431-443. | 0.7 | 2 |
| 105 | Multi-user Interference Modeling and Experimental Characterization for Pulse-based Terahertz Communication. , 2016, , . | | 2 |
| 106 | Terahertz Van Atta Retroreflecting Arrays. <i>Journal of Infrared, Millimeter, and Terahertz Waves</i> , 2020, 41, 997-1008. | 2.2 | 2 |
| 107 | Four-Wave Mixing And Phase Conjugation In Plasmas Using Ionization Nonlinearities. <i>Proceedings of SPIE</i> , 1989, 1059, 243. | 0.8 | 1 |
| 108 | Interferometric terahertz imaging for detection of lethal agents using artificial neural network analyses. , 2006, , . | | 1 |

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| 109 | Microfabricated implantable pressure sensor for flow measurement. Proceedings of SPIE, 2008, , . | 0.8 | 1 |
| 110 | Microfabricated implantable flow sensor for medical applications. , 2008, , . | | 1 |
| 111 | Terahertz Synthetic Aperture and Interferometric Imaging. , 2007, , . | | 1 |
| 112 | Non-destructive evaluation of specialty coating degradation using terahertz time-domain spectroscopy. Proceedings of SPIE, 2017, , . | 0.8 | 1 |
| 113 | Degenerate Four-Wave Mixing In Collisional And Inhomogeneous Plasmas. Proceedings of SPIE, 1988, 0879, 45. | 0.8 | 0 |
| 114 | Annular erbium-ion distribution for ruggedized optical fiber amplifiers. Optics Letters, 1993, 18, 1165. | 3.3 | 0 |
| 115 | Spectral dependence of noise and gain in Er-doped fiber preamplifier at 980 nm. , 1993, , . | | 0 |
| 116 | Resistance to cracking of a stretchable semiconductor: Speed of crack propagation for varying energy release rate. Materials Research Society Symposia Proceedings, 2003, 795, 463. | 0.1 | 0 |
| 117 | CHARACTERISTICS OF NANO-SCALE COMPOSITES AT THz AND IR SPECTRAL REGIONS. International Journal of High Speed Electronics and Systems, 2003, 13, 969-993. | 0.7 | 0 |
| 118 | Characteristics of nanoscale composites by THz spectroscopy. , 2004, 5268, 53. | | 0 |
| 119 | Transfer function study of biological samples by the THz-TDS. , 2004, , . | | 0 |
| 120 | Detection of the agent inside or behind a barrier material. , 2004, , . | | 0 |
| 121 | Biological material imaging using THz-echo analysis method. , 2005, , . | | 0 |
| 122 | A non contact characterization technique of the defect states of high k dielectrics using THz radiation. , 2006, , . | | 0 |
| 123 | Cyclic thin film flexible pressure sensor testing. , 2007, , . | | 0 |
| 124 | TERAHERTZ INTERFEROMETRIC AND SYNTHETIC APERTURE IMAGING. Selected Topics in Electornics and Systems, 2007, , 239-251. | 0.2 | 0 |
| 125 | Characteristics of HfO ₂ and SiO ₂ on p-type silicon wafers using terahertz spectroscopy. Semiconductor Science and Technology, 2007, 22, 457-463. | 2.0 | 0 |
| 126 | Terahertz response of microfluidic-jetted fabricated 3D multilayer metamaterials. , 2008, , . | | 0 |

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| 127 | The origin and effect of space charges in electrospinning. , 2010, , . | | 0 |
| 128 | Application of THz Imaging in Security Screening. , 2005, , . | | 0 |
| 129 | Physical imaging of void using ultrafast light in optical precision. , 2005, , . | | 0 |
| 130 | Industrial Applications of THz Imaging: Plastics, Food Industry, Moisture Detection, and Additive Manufacturing. , 2020, , . | | 0 |