# Natalia K Nikolova

List of Publications by Year
in descending order



| 97 | 2,186 | 279798 | 254184 |
|---|---|---|---|
| papers | citations | 23 h-index | 43 g-index |

| 102 | 102 | 102 | 1488 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Accelerated Holographic Imaging With Range Stacking for Linear Frequency Modulation Radar. IEEE Transactions on Microwave Theory and Techniques, 2022, 70, 1630-1638. | 4.6 | 11 |
| 2 | Real-Time Imaging With Simultaneous Use of Born and Rytov Approximations in Quantitative Microwave Holography. IEEE Transactions on Microwave Theory and Techniques, 2022, 70, 1896-1909. | 4.6 | 9 |
| 3 | Simultaneous Use of the Born and Rytov Approximations in Real-Time Imaging With Fourier-Space Scattered Power Mapping. IEEE Transactions on Microwave Theory and Techniques, 2022, 70, 2904-2920. | 4.6 | 4 |
| 4 | Accurate Range Migration for Fast Quantitative Fourier-Based Image Reconstruction With Monostatic Radar. IEEE Transactions on Microwave Theory and Techniques, 2022, 70, 4273-4283. | 4.6 | 3 |
| 5 | Extended GHI-LFM Algorithm for Sparse Array. , 2021, , . | | 1 |
| 6 | Quality Control of Microwave Equipment for Tissue Imaging. IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology, 2020, 4, 52-60. | 3.4 | 4 |
| 7 | Ka Band Holographic Imaging System Based on Linear Frequency Modulation Radar. Sensors, 2020, 20, 6527. | 3.8 | 6 |
| 8 | Reduction of the Line-of-Sight Equivalence Principle. Electronics (Switzerland), 2020, 9, 1278. | 3.1 | 0 |
| 9 | General Theory of Holographic Inversion With Linear Frequency Modulation Radar and its Application to Whole-Body Security Scanning. IEEE Transactions on Microwave Theory and Techniques, 2020, 68, 4694-4705. | 4.6 | 21 |
| 10 | UWB Active Antenna for Microwave Breast Imaging Sensing Arrays. IEEE Antennas and Wireless Propagation Letters, 2019, 18, 1951-1955. | 4.0 | 20 |
| 11 | Printed Cactus Monopole Antenna with Enhanced Impedance Bandwidth. , 2019, , . | | 1 |
| 12 | Fast Quantitative Microwave Imaging With Scattered-Power Maps. IEEE Transactions on Microwave Theory and Techniques, 2018, 66, 439-449. | 4.6 | 25 |
| 13 | Real-Time Quantitative Reconstruction Methods in Microwave Imaging. , 2018, , 415-442. | | 5 |
| 14 | Dynamic Range of an Active Radio Sensor for Bias-Switched Arrays for Microwave Tissue Imaging. , 2018, , . | | 1 |
| 15 | Real-Time Microwave Imaging of a Compressed Breast Phantom With Planar Scanning. IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology, 2018, 2, 154-162. | 3.4 | 35 |
| 16 | Frequency-Domain Integral Equations of Scattering for Complex Scalar Responses. IEEE Transactions on Microwave Theory and Techniques, 2017, 65, 1120-1132. | 4.6 | 29 |
| 17 | Quasi-real time reconstruction of the complex permittivity of tissue through microwave holography. , 2017, , . | | 1 |
| 18 | Sensitivity Analysis of Ferrites With TLM. IEEE Microwave and Wireless Components Letters, 2017, 27, 1044-1046. | 3.2 | 1 |

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|---|---|---|---|
| 19 | An experimental comparison between the born and Rytov approximations in microwave tissue imaging. , 2017, , . | | 9 |
| 20 | COMPARATIVE STUDY OF THE RYTOV AND BORN APPROXIMATIONS IN QUANTITATIVE MICROWAVE HOLOGRAPHY. Progress in Electromagnetics Research B, 2017, 79, 1-19. | 1.0 | 16 |
| 21 | Deâ€noising algorithm for enhancing microwave imaging. Journal of Engineering, 2017, 2017, 72-76. | 1.1 | 5 |
| 22 | Experimental investigation of axial-null and axial-peak illumination schemes in microwave imaging. , 2016, , . | | 3 |
| 23 | Real-time quantitative reconstruction based on microwave holography. , 2016, , . | | 8 |
| 24 | Modeling and design of a switched transceiver array for tissue imaging. , 2015, , . | | 4 |
| 25 | Switched sensor array for near-field microwave imaging of tissue. , 2015, , . | | 1 |
| 26 | Quantitative imaging of dielectric objects based on holographic reconstruction. , 2015, , . | | 2 |
| 27 | Fast quantitative microwave imaging based on measured point spread functions and inversion in real space. , 2015, , . | | 2 |
| 28 | Microwave Holography Using Point-Spread Functions Measured With Calibration Objects. IEEE Transactions on Instrumentation and Measurement, 2015, 64, 403-417. | 4.7 | 54 |
| 29 | Sensitivity-based quantitative imaging using planar raster scanning. , 2014, , . | | 0 |
| 30 | Sensitivity-based reconstruction in microwave imaging using near-field calibration measurements. , 2014, , . | | 0 |
| 31 | Analytical <formula formulatype="inline"><tex Notation="TeX">$S$</tex> </formula>-Parameter Sensitivity Formula for the Shape Parameters of Dielectric Objects. IEEE Microwave and Wireless Components Letters, 2014, 24, 291-293. | 3.2 | 3 |
| 32 | Sensitivity evaluation of microwave imaging systems employing scattering-parameter measurements. , 2014, , . | | 1 |
| 33 | SNR assessment of microwave imaging systems. , 2014, , . | | 3 |
| 34 | Wideband Second-Order Adjoint Sensitivity Analysis Exploiting TLM. IEEE Transactions on Microwave Theory and Techniques, 2014, 62, 389-398. | 4.6 | 10 |
| 35 | Adjoint sensitivity analysis of 3D problems with anisotropic materials. , 2014, , . | | 4 |
| 36 | Space Mapping Optimization of Handset Antennas Exploiting Thin-Wire Models. IEEE Transactions on Antennas and Propagation, 2013, 61, 3797-3807. | 5.1 | 31 |

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|---|---|---|---|
| 37 | Evaluating the efficiency of antennas used as sensors in microwave tissue imaging. , 2013, , . | | 1 |
| 38 | Three-Dimensional Microwave Holographic Imaging Employing Forward-Scattered Waves Only. International Journal of Antennas and Propagation, 2013, 2013, 1-15. | 1.2 | 25 |
| 39 | TLM: A robust tool for electromagnetics-based optimization. , 2012, , . | | 0 |
| 40 | Re-discovering adjoint sensitivities: Toward field-based analysis. , 2012, , . | | 0 |
| 41 | Space mapping design exploiting library antenna models. , 2012, , . | | 1 |
| 42 | Analytical Adjoint Sensitivity Formula for the Scattering Parameters of Metallic Structures. IEEE Transactions on Microwave Theory and Techniques, 2012, 60, 2713-2722. | 4.6 | 113 |
| 43 | Three-Dimensional Microwave Holographic Imaging Using Co- and Cross-Polarized Data. IEEE Transactions on Antennas and Propagation, 2012, 60, 3526-3531. | 5.1 | 24 |
| 44 | Design Optimization of Planar Structures Using Self-Adjoint Sensitivity Analysis. IEEE Transactions on Antennas and Propagation, 2012, 60, 3060-3066. | 5.1 | 17 |
| 45 | Physical phantoms for microwave imaging of the breast. , 2012, , . | | 11 |
| 46 | A space mapping schematic for fast EM-based modeling and design. , 2012, , . | | 4 |
| 47 | Errata to â€œThree-Dimensional Near-Field Microwave Holography Using Reflected and Transmitted Signalsâ€•[Dec 11 4777-4789]. IEEE Transactions on Antennas and Propagation, 2012, 60, 425-425. | 5.1 | 0 |
| 48 | Sensitivity-based microwave imaging with raster scanning. , 2012, , . | | 7 |
| 49 | Second-order time-domain adjoint sensitivity analysis exploiting TLM. , 2012, , . | | 1 |
| 50 | Printed antenna design using sensitivity analysis based on method of moment solutions. , 2012, , . | | 1 |
| 51 | The Solution of Transient Electromagnetic Inverse Source Problems Using Time-Domain TLM Method. IEEE Transactions on Antennas and Propagation, 2012, 60, 4326-4335. | 5.1 | 0 |
| 52 | A Novel Quad-Band Diversity Antenna for LTE and Wi-Fi Applications With High Isolation. IEEE Transactions on Antennas and Propagation, 2012, 60, 4360-4371. | 5.1 | 73 |
| 53 | Microwave Holographic Imaging Using the Antenna Phaseless Radiation Pattern. IEEE Antennas and Wireless Propagation Letters, 2012, 11, 1529-1532. | 4.0 | 25 |
| 54 | Overview of Focus and Special Sessions at IMS2012. IEEE Microwave Magazine, 2012, 13, 52-56. | 0.8 | 0 |

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|---|---|---|---|
| 55 | Panel and rump sessions. IEEE Microwave Magazine, 2012, 13, 60-62. | 0.8 | 2 |
| 56 | Accelerating Space Mapping Optimization with Adjoint Sensitivities. IEEE Microwave and Wireless Components Letters, 2011, 21, 280-282. | 3.2 | 20 |
| 57 | Electromagnetics-based CAD and optimization of microwave circuits exploiting time-domain techniques. , 2011, , . | | 0 |
| 58 | Three-Dimensional Near-Field Microwave Holography Using Reflected and Transmitted Signals. IEEE Transactions on Antennas and Propagation, 2011, 59, 4777-4789. | 5.1 | 89 |
| 59 | Microwave Imaging for Breast Cancer. IEEE Microwave Magazine, 2011, 12, 78-94. | 0.8 | 489 |
| 60 | High-efficiency TEM horn antenna for ultra-wide band microwave tissue imaging. , 2011, , . | | 6 |
| 61 | Fast space mapping modeling with adjoint sensitivity. , 2011, , . | | 2 |
| 62 | Image quality enhancement in the microwave raster scanning method. , 2011, , . | | 1 |
| 63 | Sizing of 3-D Arbitrary Defects Using Magnetic Flux Leakage Measurements. IEEE Transactions on Magnetics, 2010, 46, 1024-1033. | 2.1 | 100 |
| 64 | Two-dimensional near-field microwave holography. Inverse Problems, 2010, 26, 055011. | 2.0 | 45 |
| 65 | Systematic fidelity assessment of antennas for near-field microwave imaging. , 2010, , . | | 0 |
| 66 | Near-field microwave holographic imaging: Target localization and resolution study. , 2010, , . | | 3 |
| 67 | An efficient algorithm for solving inverse source problems using time domain TLM. , 2010, , . | | 2 |
| 68 | Detection at microwave frequencies based on self-adjoint sensitivity analysis. , 2010, , . | | 1 |
| 69 | Microwave imaging for breast cancer diagnosis based on planar aperture scanning. , 2010, , . | | 0 |
| 70 | Sensitivity analysis with discrete perturbation of planar structure on method-of-moment grids. , 2010, , . | | 0 |
| 71 | Detection using microwaves and self-adjoint sensitivity analysis. , 2010, , . | | 0 |
| 72 | Near-field microwave imaging based on planar aperture scanning. , 2010, , . | | 6 |

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|---|---|---|---|
| 73 | Microwave holography for near-field imaging. , 2010, , . | | 2 |
| 74 | Accuracy improvement of the S-parameter adjoint sensitivity analysis for shape parameters. , 2009, , . | | 1 |
| 75 | Ultra-wide band TEM horn antenna for microwave imaging of the breast. Digest / IEEE Antennas and Propagation Society International Symposium, 2009, , . | 0.0 | 2 |
| 76 | Ultra-wide band TEM horn antenna for microwave imaging of the breast. , 2009, , . | | 3 |
| 77 | Machine Learning Techniques for the Analysis of Magnetic Flux Leakage Images in Pipeline Inspection. IEEE Transactions on Magnetics, 2009, 45, 3073-3084. | 2.1 | 83 |
| 78 | $S$-Parameter Sensitivities for Electromagnetic Optimization Based on Volume Field Solutions. IEEE Transactions on Microwave Theory and Techniques, 2009, 57, 1526-1538. | 4.6 | 27 |
| 79 | The Impact of On-Chip Interconnections on CMOS RF Integrated Circuits. IEEE Transactions on Electron Devices, 2009, 56, 1882-1890. | 3.0 | 16 |
| 80 | Adjoint First Order Sensitivities of Transient Responses and Their Applications in the Solution of Inverse Problems. IEEE Transactions on Antennas and Propagation, 2009, 57, 2137-2146. | 5.1 | 15 |
| 81 | TEM HORN ANTENNA FOR ULTRA-WIDE BAND MICROWAVE BREAST IMAGING. Progress in Electromagnetics Research B, 2009, 13, 59-74. | 1.0 | 70 |
| 82 | Self-adjoint sensitivity analysis of lossy dielectric structures with electromagnetic time-domain simulators. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2008, 21, 117-132. | 1.9 | 6 |
| 83 | Timeâ€domain sensitivity analysis of planar structures using firstâ€order oneâ€way waveâ€equation boundaries. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2008, 21, 287-296. | 1.9 | 0 |
| 84 | Characterization of Surface-Breaking Cracks Using One Tangential Component of Magnetic Leakage Field Measurements. IEEE Transactions on Magnetics, 2008, 44, 516-524. | 2.1 | 50 |
| 85 | A Space Mapping Methodology for Defect Characterization From Magnetic Flux Leakage Measurements. IEEE Transactions on Magnetics, 2008, 44, 2058-2065. | 2.1 | 61 |
| 86 | Memory-Efficient Method for Wideband Self-Adjoint Sensitivity Analysis. IEEE Transactions on Microwave Theory and Techniques, 2008, 56, 1917-1927. | 4.6 | 27 |
| 87 | Efficient electromagnetic optimization using self-adjoint Jacobian computation based on a central-node FDFD method. , 2008, , . | | 1 |
| 88 | Accuracy assessment of photogrammetry surface reconstruction for improving microwave imaging. , 2008, , . | | 1 |
| 89 | Electromagnetic software in microwave engineering [Guest Editorial]. IEEE Microwave Magazine, 2008, 9, 10-12. | 0.8 | 1 |
| 90 | Central-Node Approach for Accurate Self-Adjoint Sensitivity Analysis of Dielectric Structures. IEEE MTT-S International Microwave Symposium Digest IEEE MTT-S International Microwave Symposium, 2007, , . | 0.0 | 4 |

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|---|---|---|---|
| 91 | A Study of Ultrawideband Antennas for Near-Field Imaging. IEEE Transactions on Antennas and Propagation, 2007, 55, 1184-1188. | 5.1 | 68 |
| 92 | Adjoint Sensitivity Analysis of Dielectric Discontinuities Using FDTD. Electromagnetics, 2007, 27, 123-140. | 0.7 | 30 |
| 93 | Antenna Optimization Through Space Mapping. IEEE Transactions on Antennas and Propagation, 2007, 55, 651-658. | 5.1 | 78 |
| 94 | Parasitics-aware layout design of a low-power fully integrated complementary metal-oxide semiconductor power amplifier. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2006, 24, 835-840. | 2.1 | 2 |
| 95 | Self-adjointS-parameter sensitivities for lossless homogeneous TLM problems. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2005, 18, 441-455. | 1.9 | 32 |
| 96 | Nonradiating electromagnetic sources in a nonuniform medium. Physical Review E, 2005, 71, 016617. | 2.1 | 6 |
| 97 | Uniaxial approach to time-domain computations using electromagnetic potentials. International Journal of Numerical Modelling: Electronic Networks, Devices and Fields, 2004, 17, 269-284. | 1.9 | 2 |