

Tatiana Novikova

List of Publications by Year in descending order

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93
papers

2,339
citations

218677

26
h-index

214800

47
g-index

98
all docs

98
docs citations

98
times ranked

1128
citing authors

#	ARTICLE	IF	CITATIONS
1	Ex-vivo characterization of human colon cancer by Mueller polarimetric imaging. Optics Express, 2011, 19, 1582.	3.4	253
2	Polarimetric imaging of uterine cervix: a case study. Optics Express, 2013, 21, 14120.	3.4	216
3	Mueller matrix imaging of human colon tissue for cancer diagnostics: how Monte Carlo modeling can help in the interpretation of experimental data. Optics Express, 2010, 18, 10200.	3.4	170
4	Multispectral Mueller polarimetric imaging detecting residual cancer and cancer regression after neoadjuvant treatment for colorectal carcinomas. Journal of Biomedical Optics, 2013, 18, 046014.	2.6	160
5	The origins of polarimetric image contrast between healthy and cancerous human colon tissue. Applied Physics Letters, 2013, 102, .	3.3	92
6	Application of Mueller polarimetry in conical diffraction for critical dimension measurements in microelectronics. Applied Optics, 2006, 45, 3688.	2.1	88
7	Polarimetric Imaging for Cancer Diagnosis and Staging. Optics and Photonics News, 2012, 23, 26.	0.5	87
8	Ex vivo Mueller polarimetric imaging of the uterine cervix: a first statistical evaluation. Journal of Biomedical Optics, 2016, 21, 071113.	2.6	72
9	Metrology of replicated diffractive optics with Mueller polarimetry in conical diffraction. Optics Express, 2007, 15, 2033.	3.4	62
10	Numerical modeling of capacitively coupled hydrogen plasmas: Effects of frequency and pressure. Journal of Applied Physics, 2003, 93, 3198-3206.	2.5	60
11	Polarimetric measurement utility for pre-cancer detection from uterine cervix specimens. Biomedical Optics Express, 2018, 9, 5691.	2.9	56
12	Ion flux asymmetry in radiofrequency capacitively-coupled plasmas excited by sawtooth-like waveforms. Plasma Sources Science and Technology, 2014, 23, 065010.	3.1	54
13	Visualization of White Matter Fiber Tracts of Brain Tissue Sections With Wide-Field Imaging Mueller Polarimetry. IEEE Transactions on Medical Imaging, 2020, 39, 4376-4382.	8.9	52
14	Ex vivo photometric and polarimetric multilayer characterization of human healthy colon by multispectral Mueller imaging. Journal of Biomedical Optics, 2012, 17, 066009.	2.6	49
15	Spatial evolution of depolarization in homogeneous turbid media within the differential Mueller matrix formalism. Optics Letters, 2015, 40, 5634.	3.3	45
16	Complementary analysis of Mueller-matrix images of optically anisotropic highly scattering biological tissues. Journal of the European Optical Society-Rapid Publications, 2018, 14, .	1.9	45
17	Evaluating β -amyloidosis progression in Alzheimer's disease with Mueller polarimetry. Biomedical Optics Express, 2020, 11, 4509.	2.9	43
18	Optical techniques for cervical neoplasia detection. Beilstein Journal of Nanotechnology, 2017, 8, 1844-1862.	2.8	42

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19	Colon cancer detection by using Poincaré sphere and $\langle \text{scp} \rangle_{2D}$ polarimetric mapping of ex vivo colon samples. <i>Journal of Biophotonics</i> , 2020, 13, e202000082.	2.3	41
20	Investigation of coupling between chemistry and discharge dynamics in radio frequency hydrogen plasmas in the Torr regime. <i>Journal Physics D: Applied Physics</i> , 2004, 37, 1765-1773.	2.8	40
21	Special Section Guest Editorial: Polarized Light for Biomedical Applications. <i>Journal of Biomedical Optics</i> , 2016, 21, 071001.	2.6	35
22	Optical phantoms for biomedical polarimetry: a review. <i>Journal of Biomedical Optics</i> , 2019, 24, 1.	2.6	35
23	Digital histology with Mueller microscopy: how to mitigate an impact of tissue cut thickness fluctuations. <i>Journal of Biomedical Optics</i> , 2019, 24, 1.	2.6	35
24	Impact of model parameters on Monte Carlo simulations of backscattering Mueller matrix images of colon tissue. <i>Biomedical Optics Express</i> , 2011, 2, 1836.	2.9	34
25	Overlay measurements by Mueller polarimetry in back focal plane. <i>Journal of Micro/ Nanolithography, MEMS, and MOEMS</i> , 2011, 10, 033017.	0.9	34
26	Control and optimization of the slope asymmetry effect in tailored voltage waveforms for capacitively coupled plasmas. <i>Plasma Sources Science and Technology</i> , 2015, 24, 015021.	3.1	28
27	Polarization and depolarization metrics as optical markers in support to histopathology of ex vivo colon tissue. <i>Biomedical Optics Express</i> , 2021, 12, 4560.	2.9	27
28	Metrological applications of Mueller polarimetry in conical diffraction for overlay characterization in microelectronics. <i>EPJ Applied Physics</i> , 2005, 31, 63-69.	0.7	26
29	Characterization of bidimensional gratings by spectroscopic ellipsometry and angle-resolved Mueller polarimetry. <i>Applied Optics</i> , 2004, 43, 1233.	2.1	24
30	Analysis of tissue microstructure with Mueller microscopy: logarithmic decomposition and Monte Carlo modeling. <i>Journal of Biomedical Optics</i> , 2020, 25, 1.	2.6	24
31	Mueller matrix imaging for collagen scoring in mice model of pregnancy. <i>Scientific Reports</i> , 2021, 11, 15621.	3.3	22
32	Growth dynamics of hydrogenated silicon nanoparticles under realistic conditions of a plasma reactor. <i>Computational Materials Science</i> , 2006, 35, 216-222.	3.0	21
33	Polarimetric visualization of healthy brain fiber tracts under adverse conditions: ex vivo studies. <i>Biomedical Optics Express</i> , 2021, 12, 6674.	2.9	21
34	Polarization-Based Histopathology Classification of Ex Vivo Colon Samples Supported by Machine Learning. <i>Frontiers in Physics</i> , 2022, 9, .	2.1	21
35	Use of Mueller polarimetric imaging for the staging of human colon cancer. <i>Proceedings of SPIE</i> , 2011, , .	0.8	17
36	Mueller polarimetry as a tool for detecting asymmetry in diffraction grating profiles. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , 2011, 29, .	1.2	17

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37	Multi-spectral Mueller Matrix Imaging Polarimetry for Studies of Human Tissues. , 2016, , .		16
38	Introduction of a 3 Å– 4 Mueller matrix decomposition method. Journal Physics D: Applied Physics, 2021, 54, 424005.	2.8	14
39	Polarization and Orbital Angular Momentum of Light in Biomedical Applications: feature issue introduction. Biomedical Optics Express, 2021, 12, 6255.	2.9	14
40	Evolution of raw meat polarization-based properties by means of Mueller matrix imaging. Journal of Biophotonics, 2021, 14, e202000376.	2.3	12
41	Shedding the Polarized Light on Biological Tissues. SpringerBriefs in Applied Sciences and Technology, 2021, , .	0.4	12
42	Mueller microscopy of anisotropic scattering media: theory and experiments. , 2018, , .		11
43	Polarimetric techniques for the structural studies and diagnosis of brain. Advanced Optical Technologies, 2022, 11, 157-171.	1.7	11
44	Sources of possible artefacts in the contrast evaluation for the backscattering polarimetric images of different targets in turbid medium. Optics Express, 2009, 17, 23851.	3.4	10
45	Comparison of spectroscopic Mueller polarimetry, standard scatterometry, and real space imaging techniques (SEM and 3D-AFM) for dimensional characterization of periodic structures. Proceedings of SPIE, 2008, , .	0.8	8
46	Kinetic theory of two-temperature polyatomic plasmas. Physica A: Statistical Mechanics and Its Applications, 2018, 494, 503-546.	2.6	6
47	Maskless and contactless patterned silicon deposition using a localized PECVD process. Plasma Sources Science and Technology, 2020, 29, 025023.	3.1	6
48	Inverse problem of Mueller polarimetry for metrological applications. Journal of Inverse and Ill-Posed Problems, 2021, 29, 759-774.	1.0	6
49	Tasked-based quantification of measurement utility for ex vivo multi-spectral Mueller polarimetry of the uterine cervix. , 2017, , .		5
50	Hypervelocity impact fusion of heavy clusters. International Journal of Impact Engineering, 1995, 17, 323-328.	5.0	4
51	Special Section Guest Editorial: Antonello De Martino (1954–2014): in memoriam. Journal of Biomedical Optics, 2016, 21, 071101.	2.6	4
52	Impact of charged species transport coefficients on self-bias voltage in an electrically asymmetric RF discharge. Plasma Sources Science and Technology, 2019, 28, 055003.	3.1	4
53	Role of H3 + ions in deposition of silicon thin films from SiH4/H2 discharges: modeling and experiments. Plasma Sources Science and Technology, 2021, 30, 075024.	3.1	4
54	Decorrelation of fitting parameters by Mueller polarimetry in conical diffraction. , 2006, 6152, 530.		3

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55	Contrast evaluation of the polarimetric images of different targets in turbid medium: possible sources of systematic errors. , 2010, , .		3
56	Mueller polarimetry as a tool for optical biopsy of tissue. , 2018, , .		3
57	Symmetric decomposition of Mueller matrices reveals a new parametric space for polarimetric assistance in colon cancer histopathology. , 2021, , .		3
58	Machine learning powered Mueller matrix microscope for collagen and elastin visualization in the mouse cervix. , 2022, , .		3
59	Retardance map of brain white matter: a potential game changer for the intra-operative navigation during brain tumor surgery. , 2021, , .		3
60	Numerical simulation of plasma implosion due to radiation heating of the inlet-hole walls of a hohlraum target. Journal of Russian Laser Research, 2000, 21, 465-472.	0.6	2
61	Applications of Mueller polarimetry in the Fourier space for overlay characterization in microelectronics. Proceedings of SPIE, 2010, , .	0.8	2
62	Towards a realistic numerical modeling of polarimetric response of healthy and pathological colon tissue. Proceedings of SPIE, 2011, , .	0.8	2
63	Analysis of textured films and periodic grating structures with Mueller matrices: A new challenge in instrumentation with the generation of angle-resolved SE polarimeters. Thin Solid Films, 2011, 519, 2608-2612.	1.8	2
64	Hybrid kinetic/fluid modeling of silicon nanoparticles dynamics in silane plasma discharges. AIP Conference Proceedings, 2016, , .	0.4	2
65	Perspectives of optical diagnosis with vector light beams (Conference Presentation). , 2019, , .		2
66	Diagnostics of high grade cervical intraepithelial neoplasia with Mueller matrix polarimetry. , 2019, , .		2
67	GPU-accelerated online Monte Carlo (MC) application for imitation of twisted light propagation in turbid tissue-like scattering media (Conference Presentation). , 2020, , .		2
68	The use of Stokes-Mueller polarimetry for assessment of amyloid- β^2 progression in a mouse model of Alzheimer's disease. , 2020, , .		2
69	Metrology of replicated diffractive optics with Mueller polarimetry in conical diffraction. , 2007, , .		1
70	Capillary jet injection of SiH ₄ in the high density plasma chemical vapor deposition of SiO ₂ . Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2009, 27, 849-854.	2.1	1
71	Optical biopsy of tissue with Mueller polarimetry: theory and experiments (Conference Presentation). , 2017, , .		1
72	Experimental validation of depolarizing Mueller matrix model via ex vivo colon samples. Journal of Physics: Conference Series, 2021, 1859, 012042.	0.4	1

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73	Tissue polarimetric study I: In search of reference parameters and depolarizing Mueller matrix model of ex vivo colon samples. , 2019, , .		1
74	Polarimetric Information for Pre-Cancer Detection from Uterine Cervix Specimens. , 2019, , .		1
75	Mueller microscopy of full thickness skin models combined with image segmentation. , 2019, , .		1
76	<title>Numerical simulation of plasma implosion due to radiation heating of the inlet hole walls of hohlraum target</title>. , 2001, , .		0
77	Characterization of gratings by Mueller polarimetry in conical diffraction. , 2005, , .		0
78	Overlay measurements by Mueller polarimetry in the back focal plane. , 2011, , .		0
79	Overlay measurement by angle resolved Mueller polarimetry. Proceedings of SPIE, 2011, , .	0.8	0
80	Methods and Means of Polarization Correlation of Fields of Laser Radiation Scattered by Biological Tissues. SpringerBriefs in Applied Sciences and Technology, 2021, , 1-15.	0.4	0
81	Multifunctional Stokes Correlometry of Biological Layers. SpringerBriefs in Applied Sciences and Technology, 2021, , 75-96.	0.4	0
82	Wide-field imaging of brain white matter fiber tracts with Mueller polarimetry in backscattering configuration. , 2021, , .		0
83	Welcome and Introduction to SPIE Conference 11646. , 2021, , .		0
84	A unified framework for simulation of the total angular momentum of light scattered in turbid media. , 2021, , .		0
85	Towards a realistic numerical modeling of polarimetric response of healthy and pathological colon tissue. , 2011, , .		0
86	Polarization sensitive optical biopsy with diffusely reflected polarized light. , 2016, , .		0
87	Polarized light histology of tissue and differential Mueller matrix formalism (Conference) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 1		0
88	Digital histology of tissue with Mueller polarimetric microscopy (Conference Presentation). , 2020, , .		0
89	Post-processing of multimodal microscopic images of tissue histological cuts for biomedical diagnostic (Conference Presentation). , 2020, , .		0
90	Biomedical diagnostics with multi-wavelength wide-field imaging Mueller polarimetry. , 2020, , .		0

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91	Cloud-based online application for imitation of polarized light propagation in turbid scattering media. , 2020, , .		0
92	Automated analysis of polarimetric images for the diagnostics of gastric biopsies. , 2021, , .		0
93	Assessment of Preterm Birth Risk by Collagen Scoring with Polarized Light in Mice Model of Pregnancy. , 2022, , .		0