David NeÄas

List of Publications by Year
in descending order

98 papers	3,601 citations	279798 23 h-index	144013 57 g-index
99 all docs	99 docs citations	99 times ranked	6259 citing authors

#	Article	IF	Citations
1	Gwyddion: an open-source software for SPM data analysis. Open Physics, 2012, 10, .	1.7	2,066
2	Atomic force microscopy analysis of nanoparticles in non-ideal conditions. Nanoscale Research Letters, 2011, 6, 514.	5.7	100
3	Optimization of Cyclopropylamine Plasma Polymerization toward Enhanced Layer Stability in Contact with Water. Plasma Processes and Polymers, 2014, 11, 532-544.	3.0	56
4	Universal dispersion model for characterization of optical thin films over a wide spectral range: application to hafnia. Applied Optics, 2015, 54, 9108.	2.1	47
5	Models of dielectric response in disordered solids. Optics Express, 2007, 15, 16230.	3.4	46
6	High-Performance Ammonia Gas Sensors Based on Plasma Treated Carbon Nanostructures. IEEE Sensors Journal, 2017, 17, 1964-1970.	4.7	43
7	One-dimensional autocorrelation and power spectrum density functions of irregular regions. Ultramicroscopy, 2013, 124, 13-19.	1.9	41
8	Variable-angle spectroscopic ellipsometry of considerably non-uniform thin films. Journal of Optics (United Kingdom), 2011, 13, 085705.	2.2	38
9	Carboxyl-rich coatings deposited by atmospheric plasma co-polymerization of maleic anhydride and acetylene. Surface and Coatings Technology, 2016, 295, 37-45.	4.8	37
10	Deposition of stable amine coating onto polycaprolactone nanofibers by low pressure cyclopropylamine plasma polymerization. Thin Solid Films, 2015, 581, 7-13.	1.8	36
11	Methods for determining and processing 3D errors and uncertainties for AFM data analysis. Measurement Science and Technology, 2011, 22, 025501.	2.6	35
12	XPS depth profiling of derivatized amine and anhydride plasma polymers: Evidence of limitations of the derivatization approach. Applied Surface Science, 2017, 394, 578-585.	6.1	33
13	Measurement of the thickness distribution and optical constants of non-uniform thin films. Measurement Science and Technology, 2011, 22, 085104.	2.6	32
14	Optical characterization of HfO2 thin films. Thin Solid Films, 2011, 519, 6085-6091.	1.8	32
15	Accurate prediction of band gaps and optical properties of HfO₂. Journal Physics D: Applied Physics, 2016, 49, 395301.	2.8	31
16	Application of Thomasâ€“Reicheâ€“Kuhn sum rule to construction of advanced dispersion models. Thin Solid Films, 2013, 534, 432-441.	1.8	30
17	The robust bio-immobilization based on pulsed plasma polymerization of cyclopropylamine and glutaraldehyde coupling chemistry. Applied Surface Science, 2016, 360, 28-36.	6.1	28
18	The reflectance of non-uniform thin films. Journal of Optics, 2009, 11, 045202.	1.5	27

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19	Cyclopropylamine plasma polymers deposited onto quartz crystal microbalance for biosensing application. Physica Status Solidi (A) Applications and Materials Science, 2014, 211, 2801-2808.	1.8	27
20	Solution of time-dependent Boltzmann equation for electrons in non-thermal plasma. Journal Physics D: Applied Physics, 2006, 39, 2544-2552.	2.8	26
21	Cyclopropylamine plasma polymers for increased cell adhesion and growth. Plasma Processes and Polymers, 2017, 14, 1600123.	3.0	26
22	Cell type specific adhesion to surfaces functionalised by amine plasma polymers. Scientific Reports, 2020, 10, 9357.	3.3	25
23	Application of sum rule to the dispersion model of hydrogenated amorphous silicon. Thin Solid Films, 2013, 539, 233-244.	1.8	24
24	Atomic layer deposition of titanium dioxide on multi-walled carbon nanotubes for ammonia gas sensing. Surface and Coatings Technology, 2019, 370, 235-243.	4.8	24
25	Unravelling local environments in mixed TiO2â€“SiO2 thin films by XPS and ab initio calculations. Applied Surface Science, 2020, 510, 145056.	6.1	23
26	Gwyscan: a library to support non-equidistant scanning probe microscope measurements. Measurement Science and Technology, 2017, 28, 034015.	2.6	21
27	Measurement of thickness distribution, optical constants, and roughness parameters of rough nonuniform ZnSe thin films. Applied Optics, 2014, 53, 5606.	1.8	20
28	Optical characterisation of SiO C H thin films non-uniform in thickness using spectroscopic ellipsometry, spectroscopic reflectometry and spectroscopic imaging reflectometry. Thin Solid Films, 2011, 519, 2874-2876.	1.8	19
29	Assessment of non-uniform thin films using spectroscopic ellipsometry and imaging spectroscopic reflectometry. Thin Solid Films, 2014, 571, 573-578.	1.8	19
30	How levelling and scan line corrections ruin roughness measurement and how to prevent it. Scientific Reports, 2020, 10, 15294.	3.3	19
31	Exploring the Emission Pathways in Nitrogen-Doped Graphene Quantum Dots for Bioimaging. Journal of Physical Chemistry C, 2021, 125, 21044-21054.	3.1	18
32	Correlation of thermal stability of the mechanical and optical properties of diamond-like carbon films. Diamond and Related Materials, 2007, 16, 1331-1335.	3.9	17
33	Influence of substrate material on plasma in deposition/sputtering reactor: experiment and computer simulation. Journal Physics D: Applied Physics, 2008, 41, 035213.	2.8	17
34	Mapping of properties of thin plasma jet films using imaging spectroscopic reflectometry. Measurement Science and Technology, 2014, 25, 115201.	2.6	17
35	Improved combination of scalar diffraction theory and Rayleighâ€“Rice theory and its application to spectroscopic ellipsometry of randomly rough surfaces. Thin Solid Films, 2014, 571, 695-700.	1.8	17
36	Dielectric response and structure of amorphous hydrogenated carbon films with nitrogen admixture. Thin Solid Films, 2011, 519, 4299-4308.	1.8	16

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37	Determination of tip transfer function for quantitative MFM using frequency domain filtering and least squares method. Scientific Reports, 2019, 9, 3880.	3.3	16
38	Optical characterization of ultrananocrystalline diamond films. Diamond and Related Materials, 2008, 17, 1278-1282.	3.9	15
39	Deposition penetration depth and sticking probability in plasma polymerization of cyclopropylamine. Applied Surface Science, 2021, 540, 147979.	6.1	15
40	Utilization of the sum rule for construction of advanced dispersion model of crystalline silicon containing interstitial oxygen. Thin Solid Films, 2014, 571, 490-495.	1.8	14
41	Broadening of dielectric response and sum rule conservation. Thin Solid Films, 2014, 571, 496-501.	1.8	14
42	Modeling of optical constants of diamond-like carbon. Diamond and Related Materials, 2008, 17, 705-708.	3.9	13
43	Advanced modeling for optical characterization of amorphous hydrogenated silicon films. Thin Solid Films, 2013, 541, 12-16.	1.8	13
44	Plasma-enhanced CVD of functional coatings in Ar/maleic anhydride/C₂H₂homogeneous dielectric barrier discharges at atmospheric pressure. Plasma Physics and Controlled Fusion, 2017, 59, 034003.	2.1	13
45	Ellipsometric and reflectometric characterization of thin films exhibiting thickness non-uniformity and boundary roughness. Applied Surface Science, 2017, 421, 687-696.	6.1	13
46	Analysis of epoxy functionalized layers synthesized by plasma polymerization of allyl glycidyl ether. Physical Chemistry Chemical Physics, 2018, 20, 20070-20077.	2.8	13
47	Round robin comparison on quantitative nanometer scale magnetic field measurements by magnetic force microscopy. Journal of Magnetism and Magnetic Materials, 2020, 511, 166947.	2.3	13
48	Characterization of non-uniform diamond-like carbon films by spectroscopic ellipsometry. Diamond and Related Materials, 2009, 18, 364-367.	3.9	12
49	Band structure of diamond-like carbon films assessed from optical measurements in wide spectral range. Diamond and Related Materials, 2010, 19, 114-122.	3.9	12
50	Study of user influence in routine SPM data processing. Measurement Science and Technology, 2017, 28, 034014.	2.6	12
51	Influence of cross-correlation effects on the optical quantities of rough films. Optics Express, 2008, 16, 7789.	3.4	11
52	Influence of shadowing on ellipsometric quantities of randomly rough surfaces and thin films. Journal of Modern Optics, 2008, 55, 1077-1099.	1.3	11
53	Ellipsometric characterization of inhomogeneous nonâ€stoichiometric silicon nitride films. Surface and Interface Analysis, 2013, 45, 1188-1192.	1.8	11
54	Dispersion model of two-phonon absorption: application to c-Si. Optical Materials Express, 2014, 4, 1641.	3.0	11

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55	The transport and surface reactivity of O atoms during the atmospheric plasma etching of hydrogenated amorphous carbon films. Plasma Sources Science and Technology, 2019, 28, 035010.	3.1	11
56	Algorithms for using silicon steps for scanning probe microscope evaluation. Metrologia, 2020, 57, 064002.	1.2	11
57	Biodegradable Nanohybrid Materials as Candidates for Self-Sanitizing Filters Aimed at Protection from SARS-CoV-2 in Public Areas. Molecules, 2022, 27, 1333.	3.8	11
58	Rough surface scattering simulations using graphics cards. Applied Surface Science, 2010, 256, 5640-5643.	6.1	10
59	Simultaneous determination of dispersion model parameters and local thickness of thin films by imaging spectrophotometry. Applied Surface Science, 2015, 350, 149-155.	6.1	10
60	Estimation of roughness measurement bias originating from background subtraction. Measurement Science and Technology, 2020, 31, 094010.	2.6	10
61	Measurement of phagocyte activity in heterotherms. Acta Veterinaria Brno, 2020, 89, 79-87.	0.5	10
62	Limitations and possible improvements of DLC dielectric response model based on parameterization of density of states. Diamond and Related Materials, 2009, 18, 413-418.	3.9	9
63	Independent analysis of mechanical data from atomic force microscopy. Measurement Science and Technology, 2014, 25, 044009.	2.6	9
64	Optical properties of <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:msub><mml:mi>Ti</mml:mi><mml:mi>x</mml:mi></mml:ms mathvariant="normal">O</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> solid solutions. Physical Review B, 2017, 95, .	3.2	9
65	Structure elucidation of multicolor emissive graphene quantum dots towards cell guidance. Materials Chemistry Frontiers, 2022, 6, 145-154.	5.9	9
66	Consolidated series for efficient calculation of the reflection and transmission in rough multilayers. Optics Express, 2014, 22, 4499.	3.4	8
67	Spectroscopic ellipsometry and reflectometry of statistically rough surfaces exhibiting wide intervals of spatial frequencies. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 1399-1402.	0.8	7
68	Combination of synchrotron ellipsometry and table-top optical measurements for determination of band structure of DLC films. Thin Solid Films, 2011, 519, 2694-2697.	1.8	7
69	Ellipsometric characterisation of thin films non-uniform in thickness. Thin Solid Films, 2011, 519, 2715-2717.	1.8	7
70	Depth profiling of thin plasma-polymerized amine films using GDOES in an Ar-O2 plasma. Applied Surface Science, 2022, 581, 152292.	6.1	7
71	Optical quantities of rough films calculated by Rayleigh-Rice theory. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 1395-1398.	0.8	6
72	Optical characterization of phase changing Ge₂Sb₂Te₅ chalcogenide films. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 1324-1327.	0.8	6

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73	Universal dispersion model for characterization of optical thin films over wide spectral range: Application to magnesium fluoride. Applied Surface Science, 2017, 421, 424-429.	6.1	6
74	Evidence of flexoelectricity in graphene nanobubbles created by tip induced electric field. Carbon, 2021, 179, 677-682.	10.3	6
75	Application of spectroscopic imaging reflectometry to analysis of area non-uniformity in diamond-like carbon films. Diamond and Related Materials, 2009, 18, 384-387.	3.9	5
76	Dispersion model for optical thin films applicable in wide spectral range. Proceedings of SPIE, 2015, , .	0.8	5
77	Optical characterization of SiO₂thin films using universal dispersion model over wide spectral range. Proceedings of SPIE, 2016, , .	0.8	5
78	Simultaneous determination of optical constants, local thickness and roughness of ZnSe thin films by imaging spectroscopic reflectometry. Journal of Optics (United Kingdom), 2016, 18, 015401.	2.2	5
79	Synthetic Data in Quantitative Scanning Probe Microscopy. Nanomaterials, 2021, 11, 1746.	4.1	5
80	Optical characterization of non-stoichiometric silicon nitride films. Physica Status Solidi C: Current Topics in Solid State Physics, 2008, 5, 1320-1323.	0.8	4
81	Modeling of dielectric response of Ge_xSb_yTe_z (GST) materials. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, S59.	0.8	4
82	Application of imaging spectroscopic reflectometry for characterization of gold reduction from organometallic compound by means of plasma jet technology. Applied Surface Science, 2017, 396, 284-290.	6.1	4
83	Amine modification of calcium phosphate by low-pressure plasma for bone regeneration. Scientific Reports, 2021, 11, 17870.	3.3	4
84	Anisotropy-enhanced depolarization on transparent film/substrate system. Thin Solid Films, 2011, 519, 2637-2640.	1.8	3
85	Determination of local thickness values of non-uniform thin films by imaging spectroscopic reflectometer with enhanced spatial resolution. Measurement Science and Technology, 2017, 28, 025205.	2.6	3
86	GSvit â€" An open source FDTD solver for realistic nanoscale optics simulations. Computer Physics Communications, 2021, 265, 108025.	7.5	3
87	Complete Optical Characterization of Non-Uniform SiOx Thin Films Using Imaging Spectroscopic Reflectometry. E-Journal of Surface Science and Nanotechnology, 2009, 7, 409-412.	0.4	3
88	Optical and mechanical characterization of ultrananocrystalline diamond films prepared in dual frequency discharges. Surface and Coatings Technology, 2010, 204, 1997-2001.	4.8	2
89	Wide spectral range characterization of antireflective coatings and their optimization. , 2015, , .		2
90	Possibilities and limitations of imaging spectroscopic reflectometry in optical characterization of thin films. Proceedings of SPIE, 2015, , .	0.8	2

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91	Evaluation of the Dawson function and its antiderivative needed for the Gaussian broadening of piecewise polynomial functions. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2019, 37, 062909.	1.2	2
92	Optical characterization of diamond-like carbon thin films non-uniform in thickness using spectroscopic reflectometry. Diamond and Related Materials, 2008, 17, 709-712.	3.9	1
93	Optical Characterization of Thin Films by Means of Imaging Spectroscopic Reflectometry. Springer Series in Surface Sciences, 2018, , 107-141.	0.3	1
94	Basic Data Processing. , 2018, , 65-96.		1
95	Multiple-fibre interferometry setup for probe sample interaction measurements in atomic force microscopy. Measurement Science and Technology, 2020, 31, 094001.	2.6	1
96	Search for correlations between BATSE gamma-ray bursts and supernovae. Astronomy and Astrophysics, 2006, 452, 439-449.	5.1	1
97	Optical Characterization of Ultra-Thin Iron and Iron Oxide Films. E-Journal of Surface Science and Nanotechnology, 2009, 7, 486-490.	0.4	1
98	Simultaneous determination of optical constants, local thickness, and local roughness of thin films by imaging spectroscopic reflectometry. , 2015, , .		0