

Ota Frank

List of Publications by Year in descending order

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125
papers

4,391
citations

117625

34
h-index

118850

62
g-index

125
all docs

125
docs citations

125
times ranked

6891
citing authors

#	ARTICLE	IF	CITATIONS
1	Raman spectra of titanium dioxide (anatase, rutile) with identified oxygen isotopes (16, 17, 18). Physical Chemistry Chemical Physics, 2012, 14, 14567.	2.8	417
2	Compression Behavior of Single-Layer Graphenes. ACS Nano, 2010, 4, 3131-3138.	14.6	282
3	Raman 2D-Band Splitting in Graphene: Theory and Experiment. ACS Nano, 2011, 5, 2231-2239.	14.6	271
4	Surface refinement and electronic properties of graphene layers grown on copper substrate: An XPS, UPS and EELS study. Applied Surface Science, 2011, 257, 9785-9790.	6.1	185
5	Interaction between graphene and copper substrate: The role of lattice orientation. Carbon, 2014, 68, 440-451.	10.3	180
6	Development of a universal stress sensor for graphene and carbon fibres. Nature Communications, 2011, 2, .	12.8	172
7	The control of graphene double-layer formation in copper-catalyzed chemical vapor deposition. Carbon, 2012, 50, 3682-3687.	10.3	120
8	Insight into boron-doped diamond Raman spectra characteristic features. Carbon, 2017, 115, 279-284.	10.3	103
9	Water as a Promoter and Catalyst for Dioxygen Electrochemistry in Aqueous and Organic Media. ACS Catalysis, 2015, 5, 6600-6607.	11.2	98
10	Evaluating arbitrary strain configurations and doping in graphene with Raman spectroscopy. 2D Materials, 2018, 5, 015016.	4.4	95
11	Strain and Charge Doping Fingerprints of the Strong Interaction between Monolayer MoS ₂ and Gold. Journal of Physical Chemistry Letters, 2020, 11, 6112-6118.	4.6	77
12	Graphene Mechanics: Current Status and Perspectives. Annual Review of Chemical and Biomolecular Engineering, 2015, 6, 121-140.	6.8	76
13	Single Layer Molybdenum Disulfide under Direct Out-of-Plane Compression: Low-Stress Band-Gap Engineering. Nano Letters, 2015, 15, 3139-3146.	9.1	75
14	Novel Synthesis of the TiO ₂ (B) Multilayer Templated Films. Chemistry of Materials, 2009, 21, 1457-1464.	6.7	69
15	Fabrication of porous boron-doped diamond on SiO ₂ fiber templates. Carbon, 2017, 114, 457-464.	10.3	68
16	Phonon and Structural Changes in Deformed Bernal Stacked Bilayer Graphene. Nano Letters, 2012, 12, 687-693.	9.1	65
17	Electrochemistry and in situ Raman spectroelectrochemistry of low and high quality boron doped diamond layers in aqueous electrolyte solution. Electrochimica Acta, 2013, 87, 518-525.	5.2	65
18	Failure Processes in Embedded Monolayer Graphene under Axial Compression. Scientific Reports, 2014, 4, 5271.	3.3	65

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19	On the role of Nb-related sites of an oxidized \hat{I}^2 -TiNb alloy surface in its interaction with osteoblast-like MG-63 cells. <i>Materials Science and Engineering C</i> , 2013, 33, 1636-1645.	7.3	63
20	Multilayer Films from Templated TiO_2 and Structural Changes during their Thermal Treatment. <i>Chemistry of Materials</i> , 2008, 20, 2985-2993.	6.7	59
21	Raman spectroscopy of graphene at high pressure: Effects of the substrate and the pressure transmitting media. <i>Physical Review B</i> , 2013, 88, .	3.2	56
22	Conductivity of boron-doped polycrystalline diamond films: influence of specific boron defects. <i>European Physical Journal B</i> , 2013, 86, 1.	1.5	55
23	Raman Spectroscopy and <i>in Situ</i> Raman Spectroelectrochemistry of Isotopically Engineered Graphene Systems. <i>Accounts of Chemical Research</i> , 2015, 48, 111-118.	15.6	55
24	Analysis of heavily boron-doped diamond Raman spectrum. <i>Diamond and Related Materials</i> , 2018, 88, 163-166.	3.9	52
25	Interaction of Human Osteoblast-Like Saos-2 and MG-63 Cells with Thermally Oxidized Surfaces of a Titanium-Niobium Alloy. <i>PLoS ONE</i> , 2014, 9, e100475.	2.5	47
26	Determination of atomic boron concentration in heavily boron-doped diamond by Raman spectroscopy. <i>Diamond and Related Materials</i> , 2019, 93, 54-58.	3.9	47
27	Wrinkled Few-Layer Graphene as Highly Efficient Load Bearer. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 26593-26601.	8.0	46
28	Amino acid formation induced by high-power laser in $\text{CO}_2/\text{CO} \hat{N}_2 \hat{H}_2\text{O}$ gas mixtures. <i>Chemical Physics Letters</i> , 2004, 386, 169-173.	2.6	41
29	Carbon isotope labelling in graphene research. <i>Nanoscale</i> , 2014, 6, 6363.	5.6	38
30	Strain Assessment in Graphene Through the Raman $2D \hat{C}^2$ Mode. <i>Journal of Physical Chemistry C</i> , 2015, 119, 25651-25656.	3.1	38
31	Low extraction recovery of fullerene from carbonaceous geological materials spiked with C_{60} . <i>Carbon</i> , 2005, 43, 1909-1917.	10.3	37
32	Electrochemical characterization of porous boron-doped diamond prepared using SiO_2 fiber template. <i>Diamond and Related Materials</i> , 2018, 87, 61-69.	3.9	36
33	Evidence for fullerenes in solid bitumen from pillow lavas of Proterozoic age from M \hat{A} tov (Bohemian) Tj ETQq1 1 0.784314 rgBT /Overbo	3.9	35
34	Graphene wrinkling induced by monodisperse nanoparticles: facile control and quantification. <i>Scientific Reports</i> , 2015, 5, 15061.	3.3	35
35	Boron-doped Diamond Electrodes: Electrochemical, Atomic Force Microscopy and Raman Study towards Corrosion-modifications at Nanoscale. <i>Electrochimica Acta</i> , 2015, 179, 626-636.	5.2	35
36	Effects of Heat Treatment on Raman Spectra of Two \hat{C} -Layer \hat{C}_{12} / \hat{C}_{13} Graphene. <i>Chemistry - A European Journal</i> , 2012, 18, 13877-13884.	3.3	34

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37	Heating Isotopically Labeled Bernal Stacked Graphene: A Raman Spectroscopy Study. <i>Journal of Physical Chemistry Letters</i> , 2014, 5, 549-554.	4.6	33
38	Mastering the Wrinkling of Self-supported Graphene. <i>Scientific Reports</i> , 2017, 7, 10003.	3.3	33
39	Large Variations of the Raman Signal in the Spectra of Twisted Bilayer Graphene on a BN Substrate. <i>Journal of Physical Chemistry Letters</i> , 2012, 3, 796-799.	4.6	30
40	Two-Dimensional CVD-Graphene/Polyaniline Supercapacitors: Synthesis Strategy and Electrochemical Operation. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 34686-34695.	8.0	30
41	Nanobubble-assisted formation of carbon nanostructures on basal plane highly ordered pyrolytic graphite exposed to aqueous media. <i>Nanotechnology</i> , 2010, 21, 095707.	2.6	29
42	Raman spectroscopy as tool for the characterization of thio-polyaromatic hydrocarbons in organic minerals. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2007, 68, 1065-1069.	3.9	28
43	Chaotropic anion based "water-in-salt" electrolyte realizes a high voltage Zn-graphite dual-ion battery. <i>Journal of Materials Chemistry A</i> , 2022, 10, 2064-2074.	10.3	28
44	Thermal treatment of fluorinated graphene: An in situ Raman spectroscopy study. <i>Carbon</i> , 2015, 84, 347-354.	10.3	27
45	In situ Raman spectroelectrochemistry of graphene oxide. <i>Physica Status Solidi (B): Basic Research</i> , 2013, 250, 2662-2667.	1.5	26
46	Electrochemical impedance spectroscopy of polycrystalline boron doped diamond layers with hydrogen and oxygen terminated surface. <i>Diamond and Related Materials</i> , 2015, 55, 70-76.	3.9	26
47	Biaxial strain engineering of CVD and exfoliated single- and bi-layer MoS ₂ crystals. <i>2D Materials</i> , 2021, 8, 015023.	4.4	26
48	Fluorination of Isotopically Labeled Turbostratic and Bernal Stacked Bilayer Graphene. <i>Chemistry - A European Journal</i> , 2015, 21, 1081-1087.	3.3	25
49	Raman spectroscopic study of the complex aromatic mineral idrialite. <i>Journal of Raman Spectroscopy</i> , 2006, 37, 771-776.	2.5	24
50	Temperature and face dependent copper-graphene interactions. <i>Carbon</i> , 2015, 93, 793-799.	10.3	24
51	In situ Raman spectroelectrochemistry as a useful tool for detection of TiO ₂ (anatase) impurities in TiO ₂ (B) and TiO ₂ (rutile). <i>Monatshefte für Chemie</i> , 2016, 147, 951-959.	1.8	24
52	Monitoring the doping of graphene on SiO ₂ /Si substrates during the thermal annealing process. <i>RSC Advances</i> , 2016, 6, 72859-72864.	3.6	24
53	In Situ Raman Spectroelectrochemistry of Single-Walled Carbon Nanotubes: Investigation of Materials Enriched with (6,5) Tubes. <i>Journal of Physical Chemistry C</i> , 2008, 112, 14179-14187.	3.1	22
54	Structural, optical and mechanical properties of thin diamond and silicon carbide layers grown by low pressure microwave linear antenna plasma enhanced chemical vapour deposition. <i>Diamond and Related Materials</i> , 2016, 69, 13-18.	3.9	20

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55	Tuning the electronic properties of monolayer and bilayer transition metal dichalcogenide compounds under direct out-of-plane compression. <i>Physical Chemistry Chemical Physics</i> , 2017, 19, 13333-13340.	2.8	20
56	Strong and efficient doping of monolayer MoS ₂ by a graphene electrode. <i>Physical Chemistry Chemical Physics</i> , 2019, 21, 25700-25706.	2.8	20
57	Rutile TiO ₂ thin film electrodes with excellent blocking function and optical transparency. <i>Electrochimica Acta</i> , 2019, 321, 134685.	5.2	19
58	Strong localization effects in the photoluminescence of transition metal dichalcogenide heterobilayers. <i>2D Materials</i> , 2021, 8, 025028.	4.4	19
59	Optically transparent composite diamond/Ti electrodes. <i>Carbon</i> , 2017, 119, 179-189.	10.3	18
60	Sculpturing graphene wrinkle patterns into compliant substrates. <i>Carbon</i> , 2019, 146, 772-778.	10.3	18
61	Structural properties and electrochemical behavior of CNT@TiO ₂ nanocrystal heterostructures. <i>Physica Status Solidi (B): Basic Research</i> , 2007, 244, 4040-4045.	1.5	17
62	Lithium Insertion into Titanium Dioxide (Anatase): A Raman Study with ¹⁶ O and ⁶ Li Isotope Labeling. <i>Chemistry of Materials</i> , 2013, 25, 3710-3717.	6.7	17
63	Mass-related inversion symmetry breaking and phonon self-energy renormalization in isotopically labeled AB-stacked bilayer graphene. <i>Scientific Reports</i> , 2013, 3, 2061.	3.3	17
64	Effect of layer number and layer stacking registry on the formation and quantification of defects in graphene. <i>Carbon</i> , 2016, 98, 592-598.	10.3	16
65	Heterostructures from Single-Wall Carbon Nanotubes and TiO ₂ Nanocrystals. <i>Journal of the Electrochemical Society</i> , 2007, 154, K19.	2.9	15
66	Superlattice in collapsed graphene wrinkles. <i>Scientific Reports</i> , 2019, 9, 9972.	3.3	15
67	The Intricate Love Affairs between MoS ₂ and Metallic Substrates. <i>Advanced Materials Interfaces</i> , 2020, 7, 2001324.	3.7	15
68	On the Suitability of Raman Spectroscopy to Monitor the Degree of Graphene Functionalization by Diazonium Salts. <i>Journal of Physical Chemistry C</i> , 2019, 123, 22397-22402.	3.1	14
69	Periodic surface functional group density on graphene via laser-induced substrate patterning at Si/SiO ₂ interface. <i>Nano Research</i> , 2020, 13, 2332-2339.	10.4	14
70	Carbon Nanotube Electrodes for Hot-Wire Electrochemistry. <i>ChemPhysChem</i> , 2009, 10, 559-563.	2.1	13
71	isotopic ^{13}C effect on the resonant Raman spectrum of twisted bilayer graphene. <i>Physical Review B</i> , 2013, 88, .	3.2	13
72	Temperature-induced strain release via rugae on the nanometer and micrometer scale in graphene monolayer. <i>Carbon</i> , 2017, 119, 483-491.	10.3	13

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73	n-Type phosphorus-doped nanocrystalline diamond: electrochemical and in situ Raman spectroelectrochemical study. RSC Advances, 2016, 6, 51387-51393.	3.6	12
74	Stress and charge transfer in uniaxially strained CVD graphene. Physica Status Solidi (B): Basic Research, 2016, 253, 2355-2361.	1.5	12
75	Fine tuning of optical transition energy of twisted bilayer graphene via interlayer distance modulation. Physical Review B, 2017, 95, .	3.2	12
76	Imaging Nanoscale Inhomogeneities and Edge Delamination in As-Grown MoS ₂ Using Tip-Enhanced Photoluminescence. Physica Status Solidi - Rapid Research Letters, 2019, 13, 1900381.	2.4	12
77	Superradiant Emission from Coherent Excitons in van Der Waals Heterostructures. Advanced Functional Materials, 2021, 31, 2102196.	14.9	12
78	Chemical vapor deposition (CVD) growth of graphene films. , 2014, , 27-49.		11
79	Preparation and Charge-Transfer Study in a Single-Walled Carbon Nanotube Functionalized with Poly(3,4-ethylenedioxythiophene). Journal of Physical Chemistry C, 2015, 119, 21538-21546.	3.1	11
80	High-quality graphene on single crystal Ir(1 1 1) films on Si(1 1 1) wafers: Synthesis and multi-spectroscopic characterization. Carbon, 2015, 81, 167-173.	10.3	11
81	Evaluation of Raman spectroscopy to detect fullerenes in geological materials. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2005, 61, 2364-2367.	3.9	10
82	Optimizing Conditions for Ultrasound Extraction of Fullerenes from Coal Matrices. Fullerenes Nanotubes and Carbon Nanostructures, 2009, 17, 109-122.	2.1	10
83	Do defects enhance fluorination of graphene?. RSC Advances, 2016, 6, 81471-81476.	3.6	10
84	Chemical Vapor Deposition of MoS ₂ for Energy Harvesting: Evolution of the Interfacial Oxide Layer. ACS Applied Nano Materials, 2020, 3, 6563-6573.	5.0	10
85	Influence of structural properties on (de-)intercalation of ClO ₄ ⁻ anion in graphite from concentrated aqueous electrolyte. Carbon, 2022, 186, 612-623.	10.3	10
86	The pink pigment prodigiosin: Vibrational spectroscopy and DFT calculations. Dyes and Pigments, 2016, 134, 234-243.	3.7	9
87	Photovoltaic characterization of graphene/silicon Schottky junctions from local and macroscopic perspectives. Chemical Physics Letters, 2017, 676, 82-88.	2.6	9
88	Reversible anion intercalation into graphite from aluminum perchlorate "water-in-salt" electrolyte. Electrochimica Acta, 2022, 404, 139754.	5.2	9
89	Activation of Raman modes in monolayer transition metal dichalcogenides through strong interaction with gold. Physical Review B, 2022, 105, .	3.2	9
90	Supramolecular Assembly of Single-Walled Carbon Nanotubes with a Ruthenium(II)-Bipyridine Complex: An in Situ Raman Spectroelectrochemical Study. Journal of Physical Chemistry C, 2009, 113, 2611-2617.	3.1	8

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91	Self-Assemblies of Cationic Porphyrins with Functionalized Water-Soluble Single-Walled Carbon Nanotubes. <i>Journal of Nanoscience and Nanotechnology</i> , 2009, 9, 5795-5802.	0.9	8
92	Progressive In Situ Reduction of Graphene Oxide Studied by Raman Spectroelectrochemistry: Implications for a Spontaneous Activation of LiFePO_4 (Olivine). <i>Electroanalysis</i> , 2014, 26, 57-61.	2.9	8
93	Addressing Raman features of individual layers in isotopically labeled Bernal stacked bilayer graphene. <i>2D Materials</i> , 2016, 3, 025022.	4.4	8
94	SERS of Isotopically Labeled $^{12}\text{C}/^{13}\text{C}$ Graphene Bilayer-Gold Nanostructured Film Hybrids: Graphene Layer as Spacer and SERS Probe. <i>Journal of Physical Chemistry C</i> , 2017, 121, 11680-11686.	3.1	8
95	Localized Spectroelectrochemical Identification of Basal Plane and Defect-Related Charge-Transfer Processes in Graphene. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 642-648.	4.6	8
96	In-situ Vis/NIR spectroelectrochemistry of single-walled carbon nanotubes enriched with (6,5) tubes. <i>Physica Status Solidi (B): Basic Research</i> , 2008, 245, 2239-2242.	1.5	7
97	Raman spectroscopy investigation of defect occurrence in graphene grown on copper single crystals. <i>Physica Status Solidi (B): Basic Research</i> , 2013, 250, 2653-2658.	1.5	7
98	Graphene under direct compression: Stress effects and interlayer coupling. <i>Physica Status Solidi (B): Basic Research</i> , 2016, 253, 2336-2341.	1.5	7
99	Addressing asymmetry of the charge and strain in a two-dimensional fullerene peapod. <i>Nanoscale</i> , 2016, 8, 735-740.	5.6	6
100	Wrinkle development in graphene sheets with patterned nano-protrusions: A molecular dynamics study. <i>Carbon</i> , 2021, 173, 301-310.	10.3	6
101	Probing the local dielectric function of WS_2 on an Au substrate by near field optical microscopy operating in the visible spectral range. <i>Applied Surface Science</i> , 2022, 574, 151672.	6.1	6
102	Approach to map nanotopography of cell surface receptors. <i>Communications Biology</i> , 2022, 5, 218.	4.4	6
103	Growth of adlayers studied by fluorination of isotopically engineered graphene. <i>Physica Status Solidi (B): Basic Research</i> , 2014, 251, 2505-2508.	1.5	5
104	Rippled Metallic Nanowire/Graphene/Semiconductor Nanostack for a Gate-Tunable Ultrahigh-Performance Stretchable Phototransistor. <i>Advanced Optical Materials</i> , 2020, 8, 2000859.	7.3	5
105	Nano-optical Visualization of Interlayer Interactions in WSe_2/WS_2 Heterostructures. <i>Journal of Physical Chemistry Letters</i> , 2022, 13, 5854-5859.	4.6	5
106	Local Photovoltaic Properties of Graphene-Silicon Heterojunctions. <i>Physica Status Solidi (B): Basic Research</i> , 2018, 255, 1800305.	1.5	4
107	Chemical vapor deposition (CVD) growth of graphene films. , 2021, , 199-222.		4
108	The search for fullerenes in rocks from the Ries impact crater. <i>Meteoritics and Planetary Science</i> , 2005, 40, 307-314.	1.6	3

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109	Transferless Inverted Graphene/Silicon Heterostructures Prepared by Plasma-Enhanced Chemical Vapor Deposition of Amorphous Silicon on CVD Graphene. <i>Nanomaterials</i> , 2020, 10, 589.	4.1	3
110	Direct visualization of local deformations in suspended few-layer graphene membranes by coupled in situ atomic force and scanning electron microscopy. <i>Applied Physics Letters</i> , 2021, 118, 103104.	3.3	3
111	In Situ Raman Microdroplet Spectroelectrochemical Investigation of CuSCN Electrodeposited on Different Substrates. <i>Nanomaterials</i> , 2021, 11, 1256.	4.1	3
112	Electron-phonon coupling origin of the graphene Γ^* -band kink via isotope effect. <i>Physical Review B</i> , 2021, 103, .	3.2	3
113	Evolution of the Raman 2D TM mode in monolayer graphene during electrochemical doping. <i>Microchemical Journal</i> , 2022, 181, 107739.	4.5	3
114	Search for Fullerenes in Geological Carbonaceous Samples Altered by Experimental Lightning. <i>Fullerenes Nanotubes and Carbon Nanostructures</i> , 2003, 11, 257-267.	2.1	2
115	Tuning the Interlayer Interaction of a Twisted Multilayer Wrinkle With Temperature. <i>Physica Status Solidi (B): Basic Research</i> , 2017, 254, 1700237.	1.5	2
116	Hierarchy of nanoscale graphene wrinkles on compliant substrate: Theory and experiment. <i>Extreme Mechanics Letters</i> , 2020, 40, 100948.	4.1	2
117	Fullerene C60 in Solid Bitumen Accumulations in Neo-Proterozoic Pillow-Lavas at M ^Å rov (Bohemian) Tj ETQq1 1 0.784314 rg ^{BT} /Over		
118	Axial Deformation of Monolayer Graphene under Tension and Compression. <i>Carbon Nanostructures</i> , 2012, , 87-97.	0.1	2
119	Photoluminescence of nanoporous silicon grains in TiO ₂ matrices. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2009, 6, 1713-1716.	0.8	1
120	High pressure Raman studies of single- and bi-layer graphene on copper. <i>Journal of Physics: Conference Series</i> , 2017, 950, 032006.	0.4	1
121	Fullerene Synthesis by Alteration of Coal and Shale by Simulated Lightning. , 2006, , 241-255.		1
122	Electrochromic 2,5- Δ ihydroxyterephthalic Acid Linker in Metal ^Å Organic Frameworks. <i>Advanced Photonics Research</i> , 0, , 2100219.	3.6	1
123	Temperature dependence of the 2D ^Å 2 mode of an isotopically labelled graphene double layer. <i>Physica Status Solidi (B): Basic Research</i> , 2016, 253, 2342-2346.	1.5	0
124	Local Photovoltaic Properties of Graphene ^Å Silicon Heterojunctions (Phys. Status Solidi B 12/2018). <i>Physica Status Solidi (B): Basic Research</i> , 2018, 255, 1870144.	1.5	0
125	IMPOSING BIAxIAL STRAIN ON 2D LAYERED MATERIALS BY LIQUID-INDUCED SWELLING OF SUPPORTING POLYMER. , 2020, , .		0