Pedro Jose de Pablo

List of Publications by Year
in descending order

106 papers	5,290 citations	81900 39 h-index	88630 70 g-index
110 all docs	110 docs citations	110 times ranked	4633 citing authors

#	Article	IF	Citations
1	Absence of dc-Conductivity inÎ»-DNA. Physical Review Letters, 2000, 85, 4992-4995.	7.8	602
2	Tuning the conductance of single-walled carbon nanotubes by ion irradiation in the Anderson localization regime. Nature Materials, 2005, 4, 534-539.	27.5	378
3	Bacteriophage capsids: Tough nanoshells with complex elastic properties. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 7600-7605.	7.1	317
4	Deformation and Collapse of Microtubules on the Nanometer Scale. Physical Review Letters, 2003, 91, 098101.	7.8	220
5	DNA-mediated anisotropic mechanical reinforcement of a virus. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 13706-13711.	7.1	186
6	Jumping mode scanning force microscopy. Applied Physics Letters, 1998, 73, 3300-3302.	3.3	167
7	Elastic Response, Buckling, and Instability of Microtubules under Radial Indentation. Biophysical Journal, 2006, 91, 1521-1531.	0.5	163
8	A simple, reliable technique for making electrical contact to multiwalled carbon nanotubes. Applied Physics Letters, 1999, 74, 323-325.	3.3	130
9	Contactless experiments on individual DNA molecules show no evidence for molecular wire behavior. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 8484-8487.	7.1	128
10	Origins of phase contrast in the atomic force microscope in liquids. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 13655-13660.	7.1	109
11	Manipulation of the mechanical properties of a virus by protein engineering. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 4150-4155.	7.1	103
12	The 2018 correlative microscopy techniques roadmap. Journal Physics D: Applied Physics, 2018, 51, 443001.	2.8	99
13	Nonlinear Resistance versus Length in Single-Walled Carbon Nanotubes. Physical Review Letters, 2002, 88, 036804.	7.8	85
14	Monitoring dynamics of human adenovirus disassembly induced by mechanical fatigue. Scientific Reports, 2013, 3, 1434.	3.3	85
15	Mechanics of Viral Chromatin Reveals the Pressurization of Human Adenovirus. ACS Nano, 2015, 9, 10826-10833.	14.6	83
16	The Role of Capsid Maturation on Adenovirus Priming for Sequential Uncoating. Journal of Biological Chemistry, 2012, 287, 31582-31595.	3.4	82
17	Minimizing tipâ€"sample forces in jumping mode atomic force microscopy in liquid. Ultramicroscopy, 2012, 114, 56-61.	1.9	77
18	Built-In Mechanical Stress in Viral Shells. Biophysical Journal, 2011, 100, 1100-1108.	0.5	75

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19	From Coordination Polymer Macrocrystals to Nanometric Individual Chains. Advanced Materials, 2005, 17, 1761-1765.	21.0	73
20	Direct Measurement of Phage phi29 Stiffness Provides Evidence of Internal Pressure. Small, 2012, 8, 2366-2370.	10.0	71
21	Cementing proteins provide extra mechanical stabilization to viral cages. Nature Communications, 2014, 5, 4520.	12.8	71
22	Fluorescence Tracking of Genome Release during Mechanical Unpacking of Single Viruses. ACS Nano, 2015, 9, 10571-10579.	14.6	67
23	Mechanical elasticity as a physical signature of conformational dynamics in a virus particle. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 12028-12033.	7.1	64
24	Cargoâ€"shell and cargoâ€"cargo couplings govern the mechanics of artificially loaded virus-derived cages. Nanoscale, 2016, 8, 9328-9336.	5.6	60
25	Unmasking Imaging Forces on Soft Biological Samples in Liquids When Using Dynamic Atomic Force Microscopy: A Case Study on Viral Capsids. Biophysical Journal, 2008, 95, 2520-2528.	0.5	57
26	Temperature dependence of the conductance of multiwalled carbon nanotubes. Physical Review B, 2001, 64, .	3.2	52
27	Scanning Probe Microscopy Characterization of Single Chains Based on a One-Dimensional Oxalato-Bridged Manganese(II) Complex with 4-Aminotriazole. Inorganic Chemistry, 2005, 44, 8343-8348.	4.0	52
28	The interplay between mechanics and stability of viral cages. Nanoscale, 2014, 6, 2702-2709.	5.6	51
29	Tip-sample interaction in tapping-mode scanning force microscopy. Physical Review B, 2000, 61, 14179-14183.	3.2	50
30	Mapping in vitro local material properties of intact and disrupted virions at high resolution using multi-harmonic atomic force microscopy. Nanoscale, 2013, 5, 4729.	5.6	48
31	Resolving the molecular structure of microtubules under physiological conditions with scanning force microscopy. European Biophysics Journal, 2004, 33, 462-467.	2.2	47
32	Performing current versus voltage measurements of single-walled carbon nanotubes using scanning force microscopy. Applied Physics Letters, 2002, 80, 1462-1464.	3.3	46
33	Cutting down the forest of peaks in acoustic dynamic atomic force microscopy in liquid. Review of Scientific Instruments, 2008, 79, 126106.	1.3	45
34	Quantitative nanoscale electrostatics of viruses. Nanoscale, 2015, 7, 17289-17298.	5.6	45
35	Synthesis of Designed Conductive One-Dimensional Coordination Polymers of Ni(II) with 6-Mercaptopurine and 6-Thioguanine. Inorganic Chemistry, 2009, 48, 7931-7936.	4.0	44
36	Radial Electromechanical Properties of Carbon Nanotubes. Advanced Materials, 2004, 16, 549-552.	21.0	43

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37	Mechanical Disassembly of Single Virus Particles Reveals Kinetic Intermediates Predicted by Theory. Biophysical Journal, 2012, 102, 2615-2624.	0.5	43
38	Structural insights into the assembly and regulation of distinct viral capsid complexes. Nature Communications, 2016, 7, 13014.	12.8	43
39	Scanning force microscopy three-dimensional modes applied to the study of the dielectric response of adsorbed DNA molecules. Nanotechnology, 2002, 13, 314-317.	2.6	42
40	MMX polymer chains on surfaces. Chemical Communications, 2007, , 1591-1593.	4.1	42
41	Correlating the location of structural defects with the electrical failure of multiwalled carbon nanotubes. Applied Physics Letters, 1999, 75, 3941-3943.	3.3	41
42	Atomic force microscopy of virus shells. Seminars in Cell and Developmental Biology, 2018, 73, 199-208.	5.0	41
43	Scanning force microscopy jumping and tapping modes in liquids. Applied Physics Letters, 2002, 81, 2620-2622.	3.3	40
44	Biophysical properties of single rotavirus particles account for the functions of protein shells in a multilayered virus. ELife, 2018, 7, .	6.0	38
45	Mechanical and Electrical Properties of Nanosized Contacts on Single-Walled Carbon Nanotubes. Advanced Materials, 2000, 12, 573-576.	21.0	37
46	Kinesin Walks the Line: Single Motors Observed by Atomic Force Microscopy. Biophysical Journal, 2011, 100, 2450-2456.	0.5	36
47	Mechanical Stability and Reversible Fracture of Vault Particles. Biophysical Journal, 2014, 106, 687-695.	0.5	36
48	Tuning Viral Capsid Nanoparticle Stability with Symmetrical Morphogenesis. ACS Nano, 2016, 10, 8465-8473.	14.6	34
49	Adenovirus major core protein condenses DNA in clusters and bundles, modulating genome release and capsid internal pressure. Nucleic Acids Research, 2019, 47, 9231-9242.	14.5	31
50	Resolving Structure and Mechanical Properties at the Nanoscale of Viruses with Frequency Modulation Atomic Force Microscopy. PLoS ONE, 2012, 7, e30204.	2.5	30
51	Electrostatic scanning force microscopy images of long molecules: single-walled carbon nanotubes and DNA. Nanotechnology, 2002, 13, 309-313.	2.6	28
52	The capillarity of nanometric water menisci confined inside closed-geometry viral cages. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 5475-5480.	7.1	28
53	Structural Analysis of a Temperature-Induced Transition in a Viral Capsid Probed by HDX-MS. Biophysical Journal, 2017, 112, 1157-1165.	0.5	28
54	Tau Aggregation Followed by Atomic Force Microscopy and Surface Plasmon Resonance, and Single Molecule Tau-Tau Interaction Probed by Atomic Force Spectroscopy. Journal of Alzheimer's Disease, 2009, 18, 141-151.	2.6	26

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55	Dynamic competition for hexon binding between core protein VII and lytic protein VI promotes adenovirus maturation and entry. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 13699-13707.	7.1	26
56	A protein with simultaneous capsid scaffolding and dsRNA-binding activities enhances the birnavirus capsid mechanical stability. Scientific Reports, 2015, 5, 13486.	3.3	25
57	Calcium Ions Modulate the Mechanics of Tomato Bushy Stunt Virus. Biophysical Journal, 2015, 109, 390-397.	0.5	25
58	Atomic force microscopy of virus shells. Biochemical Society Transactions, 2017, 45, 499-511.	3.4	25
59	Structural Insights into Magnetic Clusters Grown Inside Virus Capsids. ACS Applied Materials & Interfaces, 2014, 6, 20936-20942.	8.0	23
60	Visualization of single-walled carbon nanotubes electrical networks by scanning force microspy. Applied Physics Letters, 2001, 79, 2979-2981.	3.3	22
61	Adhesion Maps Using Scanning Force Microscopy Techniques. Journal of Adhesion, 1999, 71, 339-356.	3.0	21
62	Mechanical Properties of Viruses. Sub-Cellular Biochemistry, 2013, 68, 519-551.	2.4	21
63	Multifunctional carbon nanotubes covalently coated with imine-based covalent organic frameworks: exploring structureâ€“property relationships through nanomechanics. Nanoscale, 2020, 12, 1128-1137.	5.6	20
64	Enhancing Visible-Light Photocatalysis <i>via</i> Endohedral Functionalization of Single-Walled Carbon Nanotubes with Organic Dyes. ACS Applied Materials & Interfaces, 2021, 13, 24877-24886.	8.0	19
65	Atomic Force Microscopy of Viruses. Advances in Experimental Medicine and Biology, 2019, 1215, 159-179.	1.6	18
66	Decrease in pH destabilizes individual vault nanocages by weakening the inter-protein lateral interaction. Scientific Reports, 2016, 6, 34143.	3.3	17
67	The application of atomic force microscopy for viruses and protein shells: Imaging and spectroscopy. Advances in Virus Research, 2019, 105, 161-187.	2.1	17
68	Electrical characterization of single-walled carbon nanotubes with Scanning Force Microscopy. Materials Science and Engineering C, 2001, 15, 149-151.	7.3	14
69	Changes in the stability and biomechanics of P22 bacteriophage capsid during maturation. Biochimica Et Biophysica Acta - General Subjects, 2018, 1862, 1492-1504.	2.4	14
70	Atomic Force Microscopy of Viruses. Sub-Cellular Biochemistry, 2013, 68, 247-271.	2.4	14
71	Monitoring SARS-CoV-2 Surrogate TGEV Individual Virions Structure Survival under Harsh Physicochemical Environments. Cells, 2022, 11, 1759.	4.1	14
72	Observation of microtubules with scanning force microscopy in liquid. Nanotechnology, 2003, 14, 143-146.	2.6	13

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73	Jumping mode scanning force microscopy: a suitable technique for imaging DNA in liquids. Applied Surface Science, 2003, 210, 22-26.	6.1	12
74	Studying electrical transport in carbon nanotubes by conductance atomic force microscopy. Journal of Materials Science: Materials in Electronics, 2006, 17, 475-482.	2.2	12
75	Probing electrical transport in nanowires: current maps of individual V2O5nanofibres with scanning force microscopy. Nanotechnology, 2003, 14, 134-137.	2.6	11
76	High Surface Water Interaction in Superhydrophobic Nanostructured Silicon Surfaces: Convergence between Nanoscopic and Macroscopic Scale Phenomena. Langmuir, 2012, 28, 1909-1913.	3.5	11
77	Cryo-electron Microscopy Structure, Assembly, and Mechanics Show Morphogenesis and Evolution of Human Picobirnavirus. Journal of Virology, 2020, 94, .	3.4	11
78	Seeing and touching adenovirus: complementary approaches for understanding assembly and disassembly of a complex virion. Current Opinion in Virology, 2022, 52, 112-122.	5.4	11
79	Physical Virology: Direct Measurement of Phage phi29 Stiffness Provides Evidence of Internal Pressure (Small 15/2012). Small, 2012, 8, 2365-2365.	10.0	10
80	Direct visualization of single virus restoration after damage in real time. Journal of Biological Physics, 2018, 44, 225-235.	1.5	10
81	Interplay between the mechanics of bacteriophage fibers and the strength of virus-host links. Physical Review E, 2014, 89, 052710.	2.1	9
82	Improving the Lateral Resolution of Quartz Tuning Fork-Based Sensors in Liquid by Integrating Commercial AFM Tips into the Fiber End. Sensors, 2015, 15, 1601-1610.	3.8	9
83	Loading the dice: The orientation of virus-like particles adsorbed on titanate assisted organosilanized surfaces. Biointerphases, 2019, 14, 011001.	1.6	9
84	Symmetry disruption commits vault particles to disassembly. Science Advances, 2022, 8, eabj7795.	10.3	9
85	Ratchet effect in surface electromigration detected with scanning force microscopy in gold micro-stripes. Surface Science, 2000, 464, 123-130.	1.9	8
86	Imaging Biological Samples with Atomic Force Microscopy. Cold Spring Harbor Protocols, 2014, 2014, pdb.top080473.	0.3	8
87	Introduction to Atomic Force Microscopy. Methods in Molecular Biology, 2011, 783, 197-212.	0.9	8
88	In situ observation of electromigration in micrometre-sized gold stripes by scanning force microscopy. Surface and Interface Analysis, 2000, 30, 278-282.	1.8	7
89	Interaction forces and conduction properties between multi wall carbon nanotube tips and Au(111). Ultramicroscopy, 2003, 96, 83-92.	1.9	7
90	Acidification induces condensation of the adenovirus core. Acta Biomaterialia, 2021, 135, 534-542.	8.3	7

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91	Electromechanical Photophysics of GFP Packed Inside Viral Protein Cages Probed by Forceâ€Fluorescence Hybrid Singleâ€Molecule Microscopy. Small, 2022, 18, .	10.0	7
92	Virucidal Action Mechanism of Alcohol and Divalent Cations Against Human Adenovirus. Frontiers in Molecular Biosciences, 2020, 7, 570914.	3.5	6
93	Silicon-based hybrid luminescent/magnetic porous nanoparticles for biomedical applications. Journal of Nanophotonics, 2011, 5, 051505.	1.0	5
94	Exploring the role of genome and structural ions in preventing viral capsid collapse during dehydration. Journal of Physics Condensed Matter, 2018, 30, 104001.	1.8	5
95	Structural and Mechanical Characterization of Viruses with AFM. Methods in Molecular Biology, 2019, 1886, 259-278.	0.9	5
96	Fluctuating nonlinear spring theory: Strength, deformability, and toughness of biological nanoparticles from theoretical reconstruction of force-deformation spectra. Acta Biomaterialia, 2021, 122, 263-277.	8.3	5
97	MC simulations of water meniscus in nanocontainers: explaining the collapse of viral particles due to capillary forces. Physica Status Solidi C: Current Topics in Solid State Physics, 2009, 6, 2128-2132.	0.8	4
98	Dependence of the Single Walled Carbon Nanotube Length with Growth Temperature and Catalyst Density by Chemical Vapor Deposition. Journal of Nanoscience and Nanotechnology, 2009, 9, 2830-2835.	0.9	4
99	Thermal maps of gold micro-stripes obtained using scanning force microscopy. Nanotechnology, 2001, 12, 113-117.	2.6	3
100	Long-Range Cooperative Disassembly and Aging During Adenovirus Uncoating. Physical Review X, 2021, 11, .	8.9	3
101	Study Of Mechanical Properties Of Bacteriophage T7. Biophysical Journal, 2009, 96, 422a-423a.	0.5	1
102	Atomic Force Microscopy of Protein Shells: Virus Capsids and Beyond. Methods in Molecular Biology, 2018, 1665, 281-296.	0.9	1
103	Mechanical and Electrical Properties of Nanosized Contacts on Single-Walled Carbon Nanotubes. Advanced Materials, 2000, 12, 573-576.	21.0	1
104	Biophysical Methods to Monitor Structural Aspects of the Adenovirus Infectious Cycle. Methods in Molecular Biology, 2014, 1089, 1-24.	0.9	1
105	Electrical Measurements with SFM-Based Techniques. , 2006, , 355-389.		0
106	Manipulation of the mechanical properties of a virus by protein engineering. , 2008, , 221-222.		0