Andrey Chaves

List of Publications by Year in Descending Order

85 papers	2,909 citations	23 h-index	53 g-index
95 ext. papers	3,675 ext. citations	5 avg, IF	5.26 L-index

#	Paper	IF	Citations
85	Boosting quantum yields in two-dimensional semiconductors via proximal metal plates. *Nature Communications*, **2021**, 12, 7095	17.4	1
84	Probing the structure and composition of van der Waals heterostructures using the nonlocality of Dirac plasmons in the terahertz regime. *2D Materials*, **2021**, 8, 015014	5.9	1
83	Gap opening in graphene nanoribbons by application of simple shear strain and in-plane electric field. *Journal of Physics Condensed Matter*, **2021**, 33, 065503	1.8	1
82	Prediction of hyperbolic exciton-polaritons in monolayer black phosphorus. *Nature Communications* , **2021**, 12, 5628	17.4	6
81	Effect of zitterbewegung on the propagation of wave packets in ABC-stacked multilayer graphene: an analytical and computational approach. *Journal of Physics Condensed Matter*, **2021**, 33, 095503	1.8	2
80	Signatures of subband excitons in few-layer black phosphorus. *Physical Review B*, **2021**, 103,	3.3	1
79	Stable Janus TaSe2 single-layers via surface functionalization. *Applied Surface Science*, **2021**, 538, 148064	6.7	4
78	Zitterbewegung of Moir Excitons in Twisted MoS_{2}/WSe_{2} Heterobilayers. *Physical Review Letters*, **2021**, 127, 106801	7.4	1
77	Acoustically Driven Stark Effect in Transition Metal Dichalcogenide Monolayers. *ACS Nano*, **2021**, 15, 15371-15380	16.7	2
76	Tunable effective masses of magneto-excitons in two-dimensional materials. *Solid State Communications*, **2021**, 334-335, 114371	1.6	0
75	Efficient Ab Initio Modeling of Dielectric Screening in 2D van der Waals Materials: Including Phonons, Substrates, and Doping. *Journal of Physical Chemistry C*, **2020**, 124, 11609-11616	3.8	12
74	Exciton g factors of van der Waals heterostructures from first-principles calculations. *Physical Review B*, **2020**, 101,	3.3	34
73	Magnetic field induced vortices in graphene quantum dots. *Journal of Physics Condensed Matter*, **2020**, 32, 155501	1.8	3
72	Terahertz photo-generated current in a two-dimensional quantum dot system. *Journal of Applied Physics*, **2020**, 128, 185702	2.5	
71	Electronic and transport properties of anisotropic semiconductor quantum wires. *Physical Review B*, **2020**, 102,	3.3	3
70	Bandgap engineering of two-dimensional semiconductor materials. *Npj 2D Materials and Applications*, **2020**, 4,	8.8	152
69	Wave packet propagation through branched quantum rings under applied magnetic fields. *Physica E: Low-Dimensional Systems and Nanostructures*, **2019**, 114, 113598	3	1

68	Wave-packet dynamics in multilayer phosphorene. *Physical Review B*, **2019**, 99,	3.3	7
67	Enhancing and Controlling Plasmons in Janus MoSSe/Graphene Based van der Waals Heterostructures. *Journal of Physical Chemistry C*, **2019**, 123, 16373-16379	3.8	16
66	Luminescent Emission of Excited Rydberg Excitons from Monolayer WSe. *Nano Letters*, **2019**, 19, 2464-2471	11.5	24
65	Electron collimation at van der Waals domain walls in bilayer graphene. *Physical Review B*, **2019**, 100,	3.3	7
64	Interlayer Excitons in Transition-Metal Dichalcogenide Heterobilayers. *Physica Status Solidi (B): Basic Research*, **2019**, 256, 1900308	1.3	7
63	Curvature effects on the electronic and transport properties of semiconductor films. *Physica E: Low-Dimensional Systems and Nanostructures*, **2018**, 99, 304-309	3	6
62	Momentum-space indirect interlayer excitons in transition-metal dichalcogenide van der Waals heterostructures. *Nature Physics*, **2018**, 14, 801-805	16.2	145
61	Electrostatics of electron-hole interactions in van der Waals heterostructures. *Physical Review B*, **2018**, 97,	3.3	20
60	Determination of layer-dependent exciton binding energies in few-layer black phosphorus. *Science Advances*, **2018**, 4, eaap9977	14.3	80
59	Ab initio and semiempirical modeling of excitons and trions in monolayer TiS3. *Physical Review B*, **2018**, 98,	3.3	7
58	Stark shift of excitons and trions in two-dimensional materials. *Physical Review B*, **2018**, 98,	3.3	14
57	Electrical control of excitons in van der Waals heterostructures with type-II band alignment. *Physical Review B*, **2018**, 98,	3.3	10
56	Interferometry of Klein tunnelling electrons in graphene quantum rings. *Journal of Applied Physics*, **2017**, 121, 024302	2.5	5
55	Infrared fingerprints of few-layer black phosphorus. *Nature Communications*, **2017**, 8, 14071	17.4	179
54	Electronic properties of superlattices on quantum rings. *Journal of Physics Condensed Matter*, **2017**, 29, 165501	1.8	4
53	Coulomb engineering of the bandgap and excitons in two-dimensional materials. *Nature Communications*, **2017**, 8, 15251	17.4	334
52	Valley filtering in graphene due to substrate-induced mass potential. *Journal of Physics Condensed Matter*, **2017**, 29, 215502	1.8	11
51	Magnetic properties of bilayer graphene quantum dots in the presence of uniaxial strain. *Physical Review B*, **2017**, 96,	3.3	8

50	Substrate effects on the exciton fine structure of black phosphorus quantum dots. *Physical Review B*, **2017**, 96,	3.3	9
49	Charging energy spectrum of black phosphorus quantum dots. *Journal Physics D: Applied Physics*, **2017**, 50, 305103	3	5
48	Unusual quantum confined Stark effect and Aharonov-Bohm oscillations in semiconductor quantum rings with anisotropic effective masses. *Physical Review B*, **2017**, 95,	3.3	23
47	Polaritons in layered two-dimensional materials. *Nature Materials*, **2017**, 16, 182-194	27	665
46	All-strain based valley filter in graphene nanoribbons using snake states. *Physical Review B*, **2016**, 94,	3.3	23
45	Magnetic field dependence of energy levels in biased bilayer graphene quantum dots. *Physical Review B*, **2016**, 93,	3.3	17
44	Theoretical investigation of electron-hole complexes in anisotropic two-dimensional materials. *Physical Review B*, **2016**, 93,	3.3	31
43	Hexagonal-shaped monolayer-bilayer quantum disks in graphene: A tight-binding approach. *Physical Review B*, **2016**, 94,	3.3	6
42	Electronic confinement in graphene quantum rings due to substrate-induced mass radial kink. *Journal of Physics Condensed Matter*, **2016**, 28, 505501	1.8	4
41	Scattering of Dirac Electrons by Randomly Distributed Nitrogen Substitutional Impurities in Graphene. *Applied Sciences (Switzerland)*, **2016**, 6, 256	2.6	2
40	Superconductor-ferromagnet bilayer under external drive: The role of vortex-antivortex matter. *Journal of Applied Physics*, **2016**, 119, 093912	2.5	3
39	Wave Packet Dynamical Calculations for Carbon Nanostructures. *NATO Science for Peace and Security Series B: Physics and Biophysics*, **2016**, 89-102	0.2	2
38	The Split-Operator Technique for the Study of Spinorial Wavepacket Dynamics. *Communications in Computational Physics*, **2015**, 17, 850-866	2.4	21
37	Bound vortex states and exotic lattices in multicomponent Bose-Einstein condensates: The role of vortex-vortex interaction. *Physical Review A*, **2015**, 91,	2.6	11
36	Spontaneous symmetry breaking in vortex systems with two repulsive lengthscales. *Scientific Reports*, **2015**, 5, 15569	4.9	12
35	Energy levels of bilayer graphene quantum dots. *Physical Review B*, **2015**, 92,	3.3	19
34	Energy shift and conduction-to-valence band transition mediated by a time-dependent potential barrier in graphene. *Physical Review B*, **2015**, 92,	3.3	7
33	Anisotropic exciton Stark shift in black phosphorus. *Physical Review B*, **2015**, 91,	3.3	85

32	Valley filtering using electrostatic potentials in bilayer graphene. *Physical Review B*, **2015**, 92,	3.3	38
31	Quantum tunneling between bent semiconductor nanowires. *Journal of Applied Physics*, **2015**, 118, 174301	2.5	7
30	Analytical study of the energy levels in bilayer graphene quantum dots. *Carbon*, **2014**, 78, 392-400	10.4	29
29	Geometry and edge effects on the energy levels of graphene quantum rings: A comparison between tight-binding and simplified Dirac models. *Physical Review B*, **2014**, 89,	3.3	49
28	Conductance maps of quantum rings due to a local potential perturbation. *Journal of Physics Condensed Matter*, **2013**, 25, 495301	1.8	8
27	Electric and magnetic field effects on ́the ́excitonic properties of elliptic core-multishell quantum wires. *Journal of Physics Condensed Matter*, **2013**, 25, 485501	1.8	9
26	Low-Dimensional Confining Structures on the Surface of Helium Films Suspended on Designed Cavities. *Journal of Low Temperature Physics*, **2013**, 173, 207-226	1.3	1
25	Magnetic field induced shell-to-core confinement transition in type-II semiconductor quantum wires. *Journal of Applied Physics*, **2013**, 113, 153710	2.5	0
24	Braess paradox at the mesoscopic scale. *Physical Review B*, **2013**, 88,	3.3	18
23	Wave Packet Propagation Through Randomly Distributed Scattering Centers in Graphene. *NATO Science for Peace and Security Series B: Physics and Biophysics*, **2013**, 119-126	0.2	
22	Wave-packet scattering on graphene edges in the presence of a pseudomagnetic field. *Physical Review B*, **2012**, 86,	3.3	25
21	Interfacial confinement in core-shell nanowires due to high dielectric mismatch. *Applied Physics Letters*, **2012**, 100, 211601	3.4	9
20	Energy levels of triangular and hexagonal graphene quantum dots: A comparative study between the tight-binding and Dirac equation approach. *Physical Review B*, **2011**, 84,	3.3	126
19	Vortex-vortex interaction in bulk superconductors: Ginzburg-Landau theory. *Physical Review B*, **2011**, 83,	3.3	21
18	Electronic and optical properties of a circular graphene quantum dot in a magnetic field: Influence of the boundary conditions. *Physical Review B*, **2011**, 84,	3.3	75
17	Wavepacket scattering of Dirac and Schr□dinger particles on potential and magnetic barriers. *Journal of Physics Condensed Matter*, **2011**, 23, 275801	1.8	31
16	Eccentricity effects on the quantum confinement in double quantum rings. *Solid State Communications*, **2011**, 151, 1200-1204	1.6	9
15	Conditions for nonmonotonic vortex interaction in two-band superconductors. *Physical Review B*, **2011**, 83,	3.3	46

14	Publisher Note: Vortex-vortex interaction in bulk superconductors: Ginzburg-Landau theory [Phys. Rev. BPLRBAQ0556-280510.1103/PhysRevB.83.054516 83, 054516 (2011)]. *Physical Review B*, **2011**, 83,	3.3	2
13	Klein tunneling in single and multiple barriers in graphene. *Semiconductor Science and Technology*, **2010**, 25, 033002	1.8	73
12	Wave-packet dynamics and valley filter in strained graphene. *Physical Review B*, **2010**, 82,	3.3	93
11	Topological confinement in graphene bilayer quantum rings. *Applied Physics Letters*, **2010**, 96, 212108	3.4	27
10	Simplified model for the energy levels of quantum rings in single layer and bilayer graphene. *Physical Review B*, **2010**, 81,	3.3	62
9	Wave packet dynamics in semiconductor quantum rings of finite width. *Physical Review B*, **2009**, 80,	3.3	40
8	Electronic states above a helium film suspended on a ring-shaped substrate. *Physical Review B*, **2008**, 77,	3.3	3
7	Grading effects in semiconductor nanowires with longitudinal heterostructures. *Physical Review B*, **2008**, 78,	3.3	3
6	The role of surface roughness on the electron confinement in semiconductor quantum rings. *Microelectronics Journal*, **2008**, 39, 455-458	1.8	8
5	Excitonic properties of type-I and type-II Si Si1 Gex quantum wells. *Journal of Applied Physics*, **2007**, 101, 113703	2.5	4
4	Influence of graded interfaces on the exciton energy of type-I and type-II Si/Si1-x Gex quantum wires. *Journal of Materials Science*, **2007**, 42, 2314-2317	4.3	5
3	Theoretical investigation of excitons in type-I and type-II Si Si1 Gex quantum wires. *Physical Review B*, **2006**, 74,	3.3	10
2	Quantum confinement of carriers in heterostructured GaAs/GaP quantum wires. *Microelectronics Journal*, **2005**, 36, 1049-1051	1.8	2
1	Theoretical Overview of Black Phosphorus381-412		5