

Andrey Chaves

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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	Polaritons in layered two-dimensional materials. <i>Nature Materials</i> , 2017 , 16, 182-194	27	665
84	Coulomb engineering of the bandgap and excitons in two-dimensional materials. <i>Nature Communications</i> , 2017 , 8, 15251	17.4	334
83	Infrared fingerprints of few-layer black phosphorus. <i>Nature Communications</i> , 2017 , 8, 14071	17.4	179
82	Bandgap engineering of two-dimensional semiconductor materials. <i>Npj 2D Materials and Applications</i> , 2020 , 4,	8.8	152
81	Momentum-space indirect interlayer excitons in transition-metal dichalcogenide van der Waals heterostructures. <i>Nature Physics</i> , 2018 , 14, 801-805	16.2	145
80	Energy levels of triangular and hexagonal graphene quantum dots: A comparative study between the tight-binding and Dirac equation approach. <i>Physical Review B</i> , 2011 , 84,	3.3	126
79	Wave-packet dynamics and valley filter in strained graphene. <i>Physical Review B</i> , 2010 , 82,	3.3	93
78	Anisotropic exciton Stark shift in black phosphorus. <i>Physical Review B</i> , 2015 , 91,	3.3	85
77	Determination of layer-dependent exciton binding energies in few-layer black phosphorus. <i>Science Advances</i> , 2018 , 4, eaap9977	14.3	80
76	Electronic and optical properties of a circular graphene quantum dot in a magnetic field: Influence of the boundary conditions. <i>Physical Review B</i> , 2011 , 84,	3.3	75
75	Klein tunneling in single and multiple barriers in graphene. <i>Semiconductor Science and Technology</i> , 2010 , 25, 033002	1.8	73
74	Simplified model for the energy levels of quantum rings in single layer and bilayer graphene. <i>Physical Review B</i> , 2010 , 81,	3.3	62
73	Geometry and edge effects on the energy levels of graphene quantum rings: A comparison between tight-binding and simplified Dirac models. <i>Physical Review B</i> , 2014 , 89,	3.3	49
72	Conditions for nonmonotonic vortex interaction in two-band superconductors. <i>Physical Review B</i> , 2011 , 83,	3.3	46
71	Wave packet dynamics in semiconductor quantum rings of finite width. <i>Physical Review B</i> , 2009 , 80,	3.3	40
70	Valley filtering using electrostatic potentials in bilayer graphene. <i>Physical Review B</i> , 2015 , 92,	3.3	38
69	Exciton g factors of van der Waals heterostructures from first-principles calculations. <i>Physical Review B</i> , 2020 , 101,	3.3	34

68	Theoretical investigation of electron-hole complexes in anisotropic two-dimensional materials. <i>Physical Review B</i> , 2016 , 93,	3.3	31
67	Wavepacket scattering of Dirac and Schrödinger particles on potential and magnetic barriers. <i>Journal of Physics Condensed Matter</i> , 2011 , 23, 275801	1.8	31
66	Analytical study of the energy levels in bilayer graphene quantum dots. <i>Carbon</i> , 2014 , 78, 392-400	10.4	29
65	Topological confinement in graphene bilayer quantum rings. <i>Applied Physics Letters</i> , 2010 , 96, 212108	3.4	27
64	Wave-packet scattering on graphene edges in the presence of a pseudomagnetic field. <i>Physical Review B</i> , 2012 , 86,	3.3	25
63	Luminescent Emission of Excited Rydberg Excitons from Monolayer WSe. <i>Nano Letters</i> , 2019 , 19, 2464-2471,	3.3	24
62	All-strain based valley filter in graphene nanoribbons using snake states. <i>Physical Review B</i> , 2016 , 94,	3.3	23
61	Unusual quantum confined Stark effect and Aharonov-Bohm oscillations in semiconductor quantum rings with anisotropic effective masses. <i>Physical Review B</i> , 2017 , 95,	3.3	23
60	The Split-Operator Technique for the Study of Spinorial Wavepacket Dynamics. <i>Communications in Computational Physics</i> , 2015 , 17, 850-866	2.4	21
59	Vortex-vortex interaction in bulk superconductors: Ginzburg-Landau theory. <i>Physical Review B</i> , 2011 , 83,	3.3	21
58	Electrostatics of electron-hole interactions in van der Waals heterostructures. <i>Physical Review B</i> , 2018 , 97,	3.3	20
57	Energy levels of bilayer graphene quantum dots. <i>Physical Review B</i> , 2015 , 92,	3.3	19
56	Braess paradox at the mesoscopic scale. <i>Physical Review B</i> , 2013 , 88,	3.3	18
55	Magnetic field dependence of energy levels in biased bilayer graphene quantum dots. <i>Physical Review B</i> , 2016 , 93,	3.3	17
54	Enhancing and Controlling Plasmons in Janus MoSSe/Graphene Based van der Waals Heterostructures. <i>Journal of Physical Chemistry C</i> , 2019 , 123, 16373-16379	3.8	16
53	Stark shift of excitons and trions in two-dimensional materials. <i>Physical Review B</i> , 2018 , 98,	3.3	14
52	Efficient Ab Initio Modeling of Dielectric Screening in 2D van der Waals Materials: Including Phonons, Substrates, and Doping. <i>Journal of Physical Chemistry C</i> , 2020 , 124, 11609-11616	3.8	12
51	Spontaneous symmetry breaking in vortex systems with two repulsive lengthscales. <i>Scientific Reports</i> , 2015 , 5, 15569	4.9	12

50	Valley filtering in graphene due to substrate-induced mass potential. <i>Journal of Physics Condensed Matter</i> , 2017 , 29, 215502	1.8	11
49	Bound vortex states and exotic lattices in multicomponent Bose-Einstein condensates: The role of vortex-vortex interaction. <i>Physical Review A</i> , 2015 , 91,	2.6	11
48	Theoretical investigation of excitons in type-I and type-II SiBi _{1-x} Gex quantum wires. <i>Physical Review B</i> , 2006 , 74,	3.3	10
47	Electrical control of excitons in van der Waals heterostructures with type-II band alignment. <i>Physical Review B</i> , 2018 , 98,	3.3	10
46	Electric and magnetic field effects on the excitonic properties of elliptic core-multishell quantum wires. <i>Journal of Physics Condensed Matter</i> , 2013 , 25, 485501	1.8	9
45	Substrate effects on the exciton fine structure of black phosphorus quantum dots. <i>Physical Review B</i> , 2017 , 96,	3.3	9
44	Eccentricity effects on the quantum confinement in double quantum rings. <i>Solid State Communications</i> , 2011 , 151, 1200-1204	1.6	9
43	Interfacial confinement in core-shell nanowires due to high dielectric mismatch. <i>Applied Physics Letters</i> , 2012 , 100, 211601	3.4	9
42	Conductance maps of quantum rings due to a local potential perturbation. <i>Journal of Physics Condensed Matter</i> , 2013 , 25, 495301	1.8	8
41	Magnetic properties of bilayer graphene quantum dots in the presence of uniaxial strain. <i>Physical Review B</i> , 2017 , 96,	3.3	8
40	The role of surface roughness on the electron confinement in semiconductor quantum rings. <i>Microelectronics Journal</i> , 2008 , 39, 455-458	1.8	8
39	Wave-packet dynamics in multilayer phosphorene. <i>Physical Review B</i> , 2019 , 99,	3.3	7
38	Ab initio and semiempirical modeling of excitons and trions in monolayer TiS ₃ . <i>Physical Review B</i> , 2018 , 98,	3.3	7
37	Electron collimation at van der Waals domain walls in bilayer graphene. <i>Physical Review B</i> , 2019 , 100,	3.3	7
36	Interlayer Excitons in Transition-Metal Dichalcogenide Heterobilayers. <i>Physica Status Solidi (B): Basic Research</i> , 2019 , 256, 1900308	1.3	7
35	Energy shift and conduction-to-valence band transition mediated by a time-dependent potential barrier in graphene. <i>Physical Review B</i> , 2015 , 92,	3.3	7
34	Quantum tunneling between bent semiconductor nanowires. <i>Journal of Applied Physics</i> , 2015 , 118, 174301	3.5	7
33	Curvature effects on the electronic and transport properties of semiconductor films. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2018 , 99, 304-309	3	6

32	Hexagonal-shaped monolayer-bilayer quantum disks in graphene: A tight-binding approach. <i>Physical Review B</i> , 2016 , 94,	3.3	6
31	Prediction of hyperbolic exciton-polaritons in monolayer black phosphorus. <i>Nature Communications</i> , 2021 , 12, 5628	17.4	6
30	Interferometry of Klein tunnelling electrons in graphene quantum rings. <i>Journal of Applied Physics</i> , 2017 , 121, 024302	2.5	5
29	Theoretical Overview of Black Phosphorus381-412		5
28	Charging energy spectrum of black phosphorus quantum dots. <i>Journal Physics D: Applied Physics</i> , 2017 , 50, 305103	3	5
27	Influence of graded interfaces on the exciton energy of type-I and type-II Si/Si _{1-x} Gex quantum wires. <i>Journal of Materials Science</i> , 2007 , 42, 2314-2317	4.3	5
26	Electronic properties of superlattices on quantum rings. <i>Journal of Physics Condensed Matter</i> , 2017 , 29, 165501	1.8	4
25	Electronic confinement in graphene quantum rings due to substrate-induced mass radial kink. <i>Journal of Physics Condensed Matter</i> , 2016 , 28, 505501	1.8	4
24	Excitonic properties of type-I and type-II SiBi _{1-x} Gex quantum wells. <i>Journal of Applied Physics</i> , 2007 , 101, 113703	2.5	4
23	Stable Janus TaSe ₂ single-layers via surface functionalization. <i>Applied Surface Science</i> , 2021 , 538, 148064.7	4.7	4
22	Electronic states above a helium film suspended on a ring-shaped substrate. <i>Physical Review B</i> , 2008 , 77,	3.3	3
21	Grading effects in semiconductor nanowires with longitudinal heterostructures. <i>Physical Review B</i> , 2008 , 78,	3.3	3
20	Magnetic field induced vortices in graphene quantum dots. <i>Journal of Physics Condensed Matter</i> , 2020 , 32, 155501	1.8	3
19	Electronic and transport properties of anisotropic semiconductor quantum wires. <i>Physical Review B</i> , 2020 , 102,	3.3	3
18	Superconductor-ferromagnet bilayer under external drive: The role of vortex-antivortex matter. <i>Journal of Applied Physics</i> , 2016 , 119, 093912	2.5	3
17	Publisher's Note: Vortex-vortex interaction in bulk superconductors: Ginzburg-Landau theory [Phys. Rev. BPLRBAQ0556-280510.1103/PhysRevB.83.054516 83, 054516 (2011)]. <i>Physical Review B</i> , 2011 , 83,	3.3	2
16	Quantum confinement of carriers in heterostructured GaAs/GaP quantum wires. <i>Microelectronics Journal</i> , 2005 , 36, 1049-1051	1.8	2
15	Effect of zitterbewegung on the propagation of wave packets in ABC-stacked multilayer graphene: an analytical and computational approach. <i>Journal of Physics Condensed Matter</i> , 2021 , 33, 095503	1.8	2

14	Scattering of Dirac Electrons by Randomly Distributed Nitrogen Substitutional Impurities in Graphene. <i>Applied Sciences (Switzerland)</i> , 2016 , 6, 256	2.6	2
13	Wave Packet Dynamical Calculations for Carbon Nanostructures. <i>NATO Science for Peace and Security Series B: Physics and Biophysics</i> , 2016 , 89-102	0.2	2
12	Acoustically Driven Stark Effect in Transition Metal Dichalcogenide Monolayers. <i>ACS Nano</i> , 2021 , 15, 15371-15380	16.7	2
11	Wave packet propagation through branched quantum rings under applied magnetic fields. <i>Physica E: Low-Dimensional Systems and Nanostructures</i> , 2019 , 114, 113598	3	1
10	Low-Dimensional Confining Structures on the Surface of Helium Films Suspended on Designed Cavities. <i>Journal of Low Temperature Physics</i> , 2013 , 173, 207-226	1.3	1
9	Boosting quantum yields in two-dimensional semiconductors via proximal metal plates. <i>Nature Communications</i> , 2021 , 12, 7095	17.4	1
8	Probing the structure and composition of van der Waals heterostructures using the nonlocality of Dirac plasmons in the terahertz regime. <i>2D Materials</i> , 2021 , 8, 015014	5.9	1
7	Gap opening in graphene nanoribbons by application of simple shear strain and in-plane electric field. <i>Journal of Physics Condensed Matter</i> , 2021 , 33, 065503	1.8	1
6	Signatures of subband excitons in few-layer black phosphorus. <i>Physical Review B</i> , 2021 , 103,	3.3	1
5	Zitterbewegung of Moiré Excitons in Twisted MoS ₂ /WSe ₂ Heterobilayers. <i>Physical Review Letters</i> , 2021 , 127, 106801	7.4	1
4	Magnetic field induced shell-to-core confinement transition in type-II semiconductor quantum wires. <i>Journal of Applied Physics</i> , 2013 , 113, 153710	2.5	0
3	Tunable effective masses of magneto-excitons in two-dimensional materials. <i>Solid State Communications</i> , 2021 , 334-335, 114371	1.6	0
2	Wave Packet Propagation Through Randomly Distributed Scattering Centers in Graphene. <i>NATO Science for Peace and Security Series B: Physics and Biophysics</i> , 2013 , 119-126	0.2	
1	Terahertz photo-generated current in a two-dimensional quantum dot system. <i>Journal of Applied Physics</i> , 2020 , 128, 185702	2.5	