

Andrea Marini

List of Publications by Year in descending order

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144
papers

8,304
citations

46918

47
h-index

46693

89
g-index

148
all docs

148
docs citations

148
times ranked

8192
citing authors

#	ARTICLE	IF	CITATIONS
1	yambo: An ab initio tool for excited state calculations. Computer Physics Communications, 2009, 180, 1392-1403.	3.0	927
2	Effect of spin-orbit interaction on the optical spectra of single-layer, double-layer, and bulk MoS ₂ . Physical Review B, 2013, 88, .	1.1	382
3	Exact Coulomb cutoff technique for supercell calculations. Physical Review B, 2006, 73, .	1.1	369
4	Excitons in Boron Nitride Nanotubes: Dimensionality Effects. Physical Review Letters, 2006, 96, 126104.	2.9	343
5	Photo-Induced Bandgap Renormalization Governs the Ultrafast Response of Single-Layer MoS ₂ . ACS Nano, 2016, 10, 1182-1188.	7.3	272
6	Many-body perturbation theory calculations using the yambo code. Journal of Physics Condensed Matter, 2019, 31, 325902.	0.7	269
7	Optical properties of graphene nanoribbons: The role of many-body effects. Physical Review B, 2008, 77, .	1.1	235
8	First-Principles Description of Correlation Effects in Layered Materials. Physical Review Letters, 2006, 96, 136404.	2.9	183
9	Coupling of excitons and defect states in boron-nitride nanostructures. Physical Review B, 2011, 83, .	1.1	177
10	Density functionals from many-body perturbation theory: The band gap for semiconductors and insulators. Journal of Chemical Physics, 2006, 124, 154108.	1.2	166
11	Ab Initio Finite-Temperature Excitons. Physical Review Letters, 2008, 101, 106405.	2.9	164
12	Bound Excitons in Time-Dependent Density-Functional Theory: Optical and Energy-Loss Spectra. Physical Review Letters, 2003, 91, 256402.	2.9	151
13	From Si Nanowires to Porous Silicon: The Role of Excitonic Effects. Physical Review Letters, 2007, 98, 036807.	2.9	151
14	Quasiparticle Electronic Structure of Copper in the GW Approximation. Physical Review Letters, 2001, 88, 016403.	2.9	149
15	The Mechanism of Slow Hot-Hole Cooling in Lead-Iodide Perovskite: First-Principles Calculation on Carrier Lifetime from Electron-Phonon Interaction. Nano Letters, 2015, 15, 3103-3108.	4.5	140
16	Temperature dependence of the electronic structure of semiconductors and insulators. Journal of Chemical Physics, 2015, 143, 102813.	1.2	139
17	Exciton-Plasmon States in Nanoscale Materials: Breakdown of the Tamm-Dancoff Approximation. Nano Letters, 2009, 9, 2820-2824.	4.5	128
18	Plasmon-assisted high-harmonic generation in graphene. Nature Communications, 2017, 8, 14380.	5.8	128

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19	Ultrafast nonlinear optical response of Dirac fermions in graphene. Nature Communications, 2018, 9, 1018.	5.8	110
20	Effect of the Quantum Zero-Point Atomic Motion on the Optical and Electronic Properties of Diamond and Trans-Polyacetylene. Physical Review Letters, 2011, 107, 255501.	2.9	109
21	Optical absorption and electron energy loss spectra of carbon and boron nitride nanotubes: a first-principles approach. Applied Physics A: Materials Science and Processing, 2004, 78, 1157-1167.	1.1	105
22	Real-time approach to the optical properties of solids and nanostructures: Time-dependent Bethe-Salpeter equation. Physical Review B, 2011, 84, .	1.1	103
23	Anisotropic gap of superconducting CaC ₆ : A first-principles density functional calculation. Physical Review B, 2007, 75, .	1.1	101
24	Dynamical Excitonic Effects in Metals and Semiconductors. Physical Review Letters, 2003, 91, 176402.	2.9	99
25	Molecular Sensing with Tunable Graphene Plasmons. ACS Photonics, 2015, 2, 876-882.	3.2	96
26	Excitons in germanium nanowires: Quantum confinement, orientation, and anisotropy effects within a first-principles approach. Physical Review B, 2005, 72, .	1.1	93
27	Optical harmonic generation in monolayer group-VI transition metal dichalcogenides. Physical Review B, 2018, 98, .	1.1	92
28	Temperature dependence of electronic eigenenergies in the adiabatic harmonic approximation. Physical Review B, 2014, 90, .	1.1	91
29	Temperature-dependent excitonic effects in the optical properties of single-layer MoS_2 . Physical Review B, 2016, 93, .	1.1	91
30	Verification of first-principles codes: Comparison of total energies, phonon frequencies, electron-phonon coupling and zero-point motion correction to the gap between ABINIT and QE/Yambo. Computational Materials Science, 2014, 83, 341-348.	1.4	88
31	Anomalous Temperature Dependence of the Band Gap in Black Phosphorus. Nano Letters, 2016, 16, 5095-5101.	4.5	87
32	Ab Initio Calculations of Ultrashort Carrier Dynamics in Two-Dimensional Materials: Valley Depolarization in Single-Layer WSe_2 . Nano Letters, 2017, 17, 4549-4555.	4.5	83
33	Intravalley Spin-Flip Relaxation Dynamics in Single-Layer WS_2 . Nano Letters, 2018, 18, 6882-6891.	4.5	82
34	Ab initio calculation of the exchange-correlation kernel in extended systems. Physical Review B, 2003, 68, .	1.1	80
35	First-principles calculation of the plasmon resonance and of the reflectance spectrum of silver in the GW approximation. Physical Review B, 2002, 66, .	1.1	76
36	Optical parametric amplification by monolayer transition metal dichalcogenides. Nature Photonics, 2021, 15, 6-10.	15.6	74

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37	Effect of spatial nonlocality on the density functional band gap. Physical Review B, 2006, 74, .	1.1	68
38	Many-Body Effects in the Excitation Spectrum of a Defect in SiC. Physical Review Letters, 2010, 105, 026401.	2.9	66
39	Comment on "Huge Excitonic Effects in Layered Hexagonal Boron Nitride". Physical Review Letters, 2008, 100, 189701; discussion 189702.	2.9	64
40	Stable spatial plasmon solitons in a dielectric-metal-dielectric geometry with gain and loss. Optics Express, 2011, 19, 6616.	1.7	62
41	Double excitations in correlated systems: A many-body approach. Journal of Chemical Physics, 2011, 134, 034115.	1.2	59
42	Plane-wave DFT-LDA calculation of the electronic structure and absorption spectrum of copper. Physical Review B, 2001, 64, .	1.1	57
43	First-principles approach to excitons in time-resolved and angle-resolved photoemission spectra. Physical Review B, 2016, 94, .	1.1	56
44	Enhanced nonlinear effects in pulse propagation through epsilon-near-zero media. Laser and Photonics Reviews, 2016, 10, 517-525.	4.4	53
45	Zero point motion effect on the electronic properties of diamond, trans-polyacetylene and polyethylene. European Physical Journal B, 2012, 85, 1.	0.6	49
46	Electron-electron and electron-phonon correlation effects on the finite-temperature electronic and optical properties of zinc-blende GaN. Physical Review B, 2014, 89, .	1.1	49
47	Phononic Crystal Waveguide Transducers for Nonlinear Elastic Wave Sensing. Scientific Reports, 2017, 7, 14712.	1.6	49
48	Optical Saturation Driven by Exciton Confinement in Molecular Chains: A Time-Dependent Density-Functional Theory Approach. Physical Review Letters, 2008, 101, 133002.	2.9	47
49	Ultra-fast carriers relaxation in bulk silicon following photo-excitation with a short and polarized laser pulse. Europhysics Letters, 2015, 110, 47004.	0.7	47
50	Many-body perturbation theory approach to the electron-phonon interaction with density-functional theory as a starting point. Physical Review B, 2015, 91, .	1.1	46
51	Electron-vibration coupling induced renormalization in the photoemission spectrum of diamondoids. Nature Communications, 2016, 7, 11327.	5.8	45
52	Interaction between optical fields and their conjugates in nonlinear media. Optics Express, 2013, 21, 31239.	1.7	44
53	Strongly Coupled Coherent Phonons in Single-Layer MoS ₂ . ACS Nano, 2020, 14, 5700-5710.	7.3	44
54	Competition between the electronic and phonon-mediated scattering channels in the out-of-equilibrium carrier dynamics of semiconductors: an ab-initio approach. Journal of Physics: Conference Series, 2013, 427, 012003.	0.3	43

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55	Speeding up the solution of the Bethe-Salpeter equation by a double-grid method and Wannier interpolation. <i>Physical Review B</i> , 2012, 86, .	1.1	42
56	Unified theory of quantized electrons, phonons, and photons out of equilibrium: A simplified <i>ab initio</i> approach based on the generalized Baym-Kadanoff ansatz. <i>Physical Review B</i> , 2016, 93, .	1.1	39
57	Efficient Vortex Generation in Subwavelength Epsilon-Near-Zero Slabs. <i>Physical Review Letters</i> , 2017, 118, 104301.	2.9	39
58	Polariton excitation in epsilon-near-zero slabs: Transient trapping of slow light. <i>Physical Review A</i> , 2013, 87, .	1.0	38
59	Implementation and testing of Lanczos-based algorithms for Random-Phase Approximation eigenproblems. <i>Computational Materials Science</i> , 2011, 50, 2148-2156.	1.4	37
60	Nonequilibrium Bethe-Salpeter equation for transient photoabsorption spectroscopy. <i>Physical Review B</i> , 2015, 92, .	1.1	37
61	Ultrafast Charge Migration in XUV Photoexcited Phenylalanine: A First-Principles Study Based on Real-Time Nonequilibrium Green's Functions. <i>Journal of Physical Chemistry Letters</i> , 2018, 9, 1353-1358.	2.1	36
62	Reproducibility in ϵ calculations for solids. <i>Computer Physics Communications</i> , 2020, 255, 107242.	3.0	36
63	Advanced Correlation Functionals: Application to Bulk Materials and Localized Systems. <i>Journal of Physical Chemistry A</i> , 2007, 111, 12458-12465.	1.1	35
64	Observation of an Excitonic Mott Transition Through Ultrafast Core- <i>cum</i> -Conduction Photoemission Spectroscopy. <i>Physical Review Letters</i> , 2020, 125, 096401.	2.9	35
65	Reflectance Anisotropy Spectra of the Diamond(100) $\tilde{\nu}(2\tilde{A}-1)$ Surface: Evidence of Strongly Bound Surface State Excitons. <i>Physical Review Letters</i> , 2005, 94, 087404.	2.9	34
66	Anisotropic excitonic effects in the energy loss function of hexagonal boron nitride. <i>Physical Review B</i> , 2011, 83, .	1.1	34
67	Nonequilibrium optical properties in semiconductors from first principles: A combined theoretical and experimental study of bulk silicon. <i>Physical Review B</i> , 2016, 93, .	1.1	34
68	Quasiparticle band-structure effects on the hole lifetimes of copper within the GW approximation. <i>Physical Review B</i> , 2002, 66, .	1.1	32
69	Pseudopotential-based first-principles approach to the magneto-optical Kerr effect: From metals to the inclusion of local fields and excitonic effects. <i>Physical Review B</i> , 2012, 86, .	1.1	31
70	The Bethe-Salpeter equation: a first-principles approach for calculating surface optical spectra. <i>Journal of Physics Condensed Matter</i> , 2004, 16, S4313-S4322.	0.7	28
71	Photocarrier-induced band-gap renormalization and ultrafast charge dynamics in black phosphorus. <i>2D Materials</i> , 2019, 6, 031001.	2.0	28
72	Phase-matching-free parametric oscillators based on two-dimensional semiconductors. <i>Light: Science and Applications</i> , 2018, 7, 5.	7.7	26

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73	Auger spectroscopy of strongly correlated systems: present status and future trends. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2001, 117-118, 41-55.	0.8	25
74	Subpicosecond metamagnetic phase transition in FeRh driven by non-equilibrium electron dynamics. <i>Nature Communications</i> , 2021, 12, 5088.	5.8	25
75	Absorption of BN nanotubes under the influence of a perpendicular electric field. <i>Physica Status Solidi (B): Basic Research</i> , 2007, 244, 4288-4292.	0.7	22
76	Ultrashort Self-Induced Transparency Plasmon Solitons. <i>Physical Review Letters</i> , 2013, 110, 243901.	2.9	22
77	Efficient Gate-tunable light-emitting device made of defective boron nitride nanotubes: from ultraviolet to the visible. <i>Scientific Reports</i> , 2013, 3, 2698.	1.6	22
78	An ab-initio approach to describe coherent and non-coherent exciton dynamics. <i>European Physical Journal B</i> , 2018, 91, 1.	0.6	21
79	Self-Assembled InAs Nanowires as Optical Reflectors. <i>Nanomaterials</i> , 2017, 7, 400.	1.9	20
80	Lasing and Amplification from Two-Dimensional Atom Arrays. <i>Physical Review Letters</i> , 2018, 121, 163602.	2.9	20
81	Electron-phonon scattering effects on electronic and optical properties of orthorhombic GeS. <i>Physical Review B</i> , 2016, 94, .	1.1	18
82	Optical Simulation of Neutrino Oscillations in Binary Waveguide Arrays. <i>Physical Review Letters</i> , 2014, 113, 150401.	2.9	17
83	First-Principles Nonequilibrium Greenâ€™s Function Approach to Ultrafast Charge Migration in Glycine. <i>Journal of Chemical Theory and Computation</i> , 2019, 15, 4526-4534.	2.3	17
84	Electron linewidths of wide-gap insulators: Excitonic effects in LiF. <i>Physical Review B</i> , 2004, 70, .	1.1	16
85	Test of long-range exchange-correlation kernels of time-dependent density functional theory at surfaces: Application to Si(111)2Å-1. <i>Physical Review B</i> , 2010, 82, .	1.1	16
86	Complete collisions approximation to the Kadanoff-Baym equation: a first-principles implementation. <i>Journal of Physics: Conference Series</i> , 2015, 609, 012006.	0.3	16
87	Spinorial formulation of the G -BSE equations and spin properties of excitons in two-dimensional transition metal dichalcogenides. <i>Physical Review B</i> , 2021, 103, .	1.1	16
88	Self-frequency blueshift of dissipative solitons in silicon-based waveguides. <i>Physical Review A</i> , 2013, 87, .	1.0	15
89	Time-Dependent Screening Explains the Ultrafast Excitonic Signal Rise in 2D Semiconductors. <i>ACS Nano</i> , 2021, 15, 1179-1185.	7.3	15
90	Ab initio calculation of many-body effects on the EEL spectrum of the C(100) surface. <i>Physical Review B</i> , 2006, 74, .	1.1	13

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91	Atomistic Quantum Plasmonics of Gold Nanowire Arrays. ACS Photonics, 2014, 1, 315-322.	3.2	13
92	Raman-induced temporal condensed matter physics in gas-filled photonic crystal fibers. Optics Express, 2015, 23, 11879.	1.7	13
93	Shock-induced PT-symmetric potentials in gas-filled photonic-crystal fibers. Physical Review A, 2014, 89, .	1.0	12
94	Strong Raman-induced noninstantaneous soliton interactions in gas-filled photonic crystal fibers. Optics Letters, 2015, 40, 4058.	1.7	12
95	Strong Modulations of Optical Reflectance in Tapered Core-Shell Nanowires. Materials, 2019, 12, 3572.	1.3	11
96	Theory for Modeling the Optical Properties of Surfaces. Physica Status Solidi A, 2001, 188, 1233-1242.	1.7	10
97	Plasmon-Enhanced Spin-Orbit Interaction of Light in Graphene. Laser and Photonics Reviews, 2018, 12, 1800140.	4.4	10
98	Anomalous Aharonov-Bohm Gap Oscillations in Carbon Nanotubes. Nano Letters, 2011, 11, 4052-4057.	4.5	9
99	Dynamical correlation effects in a weakly correlated material: Inelastic x-ray scattering and photoemission spectra of beryllium. Physical Review B, 2018, 97, .	1.1	9
100	Functional approach to the electronic and bosonic dynamics of many-body systems perturbed with an arbitrary strong electron-boson interaction. Physical Review B, 2018, 98, .	1.1	9
101	Goos-Hänchen and Imbert-Fedorov shifts for epsilon-near-zero materials. Journal of Optics (United Kingdom), 2014, 16, 10784314.	1.0	9
102	Three-body and one-body channels of the Auger core-valence-valence decay: A simplified approach. Physical Review B, 1999, 60, 11391-11403.	1.1	8
103	Loss-compensated nonlinear modes and symmetry breaking in amplifying metal-dielectric-metal plasmonic couplers. Physical Review A, 2015, 91, .	1.0	8
104	All-optical modulation in wavelength-sized epsilon-near-zero media. Optics Letters, 2016, 41, 3102.	1.7	8
105	Enhanced asymmetric transmission in hyperbolic epsilon-near-zero slabs. Journal of Optics (United Kingdom), 2014, 16, 10784314.	1.0	8
106	Miniaturized bending-free solitons by restoring symmetry in periodically biased photorefractives. Optics Letters, 2008, 33, 2110.	1.7	7
107	Nonlinear optical effects of opening a gap in graphene. Physical Review B, 2018, 97, .	1.1	7
108	Electric Control of Spin-Orbit Coupling in Graphene-Based Nanostructures with Broken Rotational Symmetry. Laser and Photonics Reviews, 2020, 14, 2000214.	4.4	7

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109	One, two and three-body channels of the coreâ€“valenceâ€“valence Auger photoelectron coincidence spectra of early transition metals. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2002, 127, 17-28.	0.8	6
110	Accurate band mapping via photoemission from thin films. <i>Physical Review B</i> , 2004, 69, .	1.1	6
111	Many-body perturbation theory combined with time dependent DFT: A new method for the calculation of the dielectric function of solids. <i>Physica Status Solidi (B): Basic Research</i> , 2005, 242, 2729-2736.	0.7	6
112	Optical properties of oneâ€“dimensional graphene polymers: the case of polyphenanthrene. <i>Physica Status Solidi (B): Basic Research</i> , 2007, 244, 4124-4128.	0.7	6
113	Dynamical centrosymmetry breaking â€” A novel mechanism for second harmonic generation in graphene. <i>Annals of Physics</i> , 2017, 378, 24-32.	1.0	6
114	Multipolar terahertz absorption spectroscopy ignited by graphene plasmons. <i>Communications Physics</i> , 2019, 2, .	2.0	6
115	Engineering the optical reflectance of randomly arranged self-assembled semiconductor nanowires. <i>AIP Conference Proceedings</i> , 2020, , .	0.3	6
116	Non-linear self-driven spectral tuning of Extreme Ultraviolet Femtosecond Pulses in monoatomic materials. <i>Light: Science and Applications</i> , 2021, 10, 92.	7.7	6
117	All-Electron versus Pseudopotential Calculation of Optical Properties: The Case of GaAs. <i>Physica Status Solidi A</i> , 2001, 184, 101-104.	1.7	5
118	Electronic excited states at ultrathin dielectric-metal interfaces. <i>Physical Review B</i> , 2013, 88, .	1.1	5
119	Efficient hot-carrier dynamics in near-infrared photocatalytic metals. <i>Physical Review B</i> , 2022, 105, .	1.1	5
120	Out-of-equilibrium electron dynamics of silver driven by ultrafast electromagnetic fields â€” a novel hydrodynamical approach. <i>Faraday Discussions</i> , 2019, 214, 235-243.	1.6	4
121	Free-carrier-induced nonlinear dynamics in hybrid graphene-based photonic waveguides. <i>Physical Review A</i> , 2021, 104, .	1.0	4
122	Coherence and de-coherence in the Time-Resolved ARPES of realistic materials: An ab-initio perspective. <i>Journal of Electron Spectroscopy and Related Phenomena</i> , 2022, 257, 147189.	0.8	4
123	Approximate Functionals from Many-Body Perturbation Theory. <i>Lecture Notes in Physics</i> , 2006, , 161-180.	0.3	3
124	Heat-induced soliton self-frequency redshift in the ultrafast nonlinear dynamics of active plasmonic waveguides. <i>Physical Review A</i> , 2019, 100, .	1.0	3
125	Temporal dynamics of strongly coupled epsilon near-zero plasmonic systems. <i>Applied Physics Letters</i> , 2021, 119, .	1.5	3
126	Nonâ€“Equilibrium Green's Functions. <i>Physica Status Solidi (B): Basic Research</i> , 2019, 256, 1900335.	0.7	2

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127	Free-carrier-driven spatiotemporal dynamics in amplifying silicon waveguides. <i>Physical Review A</i> , 2014, 89, .	1.0	1
128	Infrared spectroscopy with tunable graphene plasmons (Presentation Recording). , 2015, , .		1
129	Strong Exciton-Coherent Phonon Coupling In Single-Layer MoS2. , 2019, , .		1
130	Spatial Dissipative Solitons in Graphene-Based Active Random Metamaterials. <i>Physical Review Applied</i> , 2022, 17, .	1.5	1
131	Towards a microscopic description of the optical nonlinearities of gold-based plasmonic devices. , 2013, , .		0
132	Raman-induced soliton oscillations and tunneling in gas-filled photonic crystal fibers. , 2014, , .		0
133	Interaction between positive and negative frequencies in nonlinear optics. , 2014, , .		0
134	Non-local soliton interactions in Raman-gas photonic crystal fibers. , 2015, , .		0
135	Lamb shift of the Dirac cone of graphene. <i>Europhysics Letters</i> , 2016, 116, 43001.	0.7	0
136	Real-time observation of the intravalley spin-flip process in single-layer WS2. <i>EPJ Web of Conferences</i> , 2019, 205, 05012.	0.1	0
137	Broadband Optical Parametric Amplification by 2D Semiconductors. , 2021, , .		0
138	Temporal Dynamics of Strongly Coupled Epsilon Near-Zero Plasmonic Systems. , 2021, , .		0
139	Ultrafast interband nonlinear dynamics of surface plasmon polaritons in gold nanowires. , 2013, , .		0
140	Ultrafast interband nonlinear dynamics of surface plasmon polaritons in gold nanowires. , 2013, , .		0
141	Nonlinear Optical Dynamics in Near-zero Index Media and in Graphene-based Random Meta-lasers. , 2016, , .		0
142	Two-dimensional semiconductors: a novel platform for micron-sized phase-matching-free parametric oscillators. , 2018, , .		0
143	Efficient vortex generation in sub-wavelength near-zero index slabs. , 2018, , .		0
144	Optical Parametric Amplification in 2D Semiconductors. , 2020, , .		0