

Cesare Franchini

List of Publications by Year in descending order

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150
papers

8,914
citations

61857

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154
docs citations

154
times ranked

11280
citing authors

#	ARTICLE	IF	CITATIONS
1	Revealing the quasiparticle electronic and excitonic nature in cubic, tetragonal, and hexagonal phases of FAPbI_3 . AIP Advances, 2022, 12, 025330.	0.6	2
2	Modeling polarons in density functional theory: lessons learned from TiO_2 . Journal of Physics Condensed Matter, 2022, 34, 204006.	0.7	6
3	CO oxidation by $\text{Pt}_2/\text{Fe}_3\text{O}_4$: Metastable dimer and support configurations facilitate lattice oxygen extraction. Science Advances, 2022, 8, eabn4580.	4.7	14
4	Machine learning for exploring small polaron configurational space. Npj Computational Materials, 2022, 8, .	3.5	8
5	Role of Polarons in Single-Atom Catalysts: Case Study of Me1 [Au1, Pt1, and Rh1] on $\text{TiO}_2(110)$. Topics in Catalysis, 2022, 65, 1620-1630.	1.3	3
6	Modeling magnetic multipolar phases in density functional theory. Physical Review B, 2022, 106, .	1.1	7
7	Nanoscale synthesis of ionic analogues of bilayer silicene with high carrier mobility. Journal of Materials Chemistry C, 2021, 9, 8545-8551.	2.7	4
8	Unraveling CO adsorption on model single-atom catalysts. Science, 2021, 371, 375-379.	6.0	179
9	Interplay between multipolar spin interactions, Jahn-Teller effect, and electronic correlation in a d^1 insulator. Physical Review B, 2021, 103, .	1.1	14
10	Polarons in materials. Nature Reviews Materials, 2021, 6, 560-586.	23.3	273
11	Advanced First-Principle Modeling of Relativistic Ruddlesden-Popper Strontium Iridates. Applied Sciences (Switzerland), 2021, 11, 2527.	1.3	5
12	Electronic State Unfolding for Plane Waves: Energy Bands, Fermi Surfaces, and Spectral Functions. Journal of Physical Chemistry C, 2021, 125, 12921-12928.	1.5	14
13	Optical and excitonic properties of transition metal oxide perovskites by the Bethe-Salpeter equation. Physical Review Materials, 2021, 5, .	0.9	9
14	Pressure-Induced Excitations in the Out-of-Plane Optical Response of the Nodal-Line Semimetal ZrSiS . Physical Review Letters, 2021, 127, 076402.	2.9	6
15	Diagrammatic quantum Monte Carlo study of an acoustic lattice polaron. Physical Review B, 2021, 104, .	1.1	4
16	Ferro-octupolar Order and Low-Energy Excitations in d^1 Perovskites of Osmium. Physical Review Letters, 2021, 127, 237201.	2.9	17
17	Rapid oxygen exchange between hematite and water vapor. Nature Communications, 2021, 12, 6488.	5.8	8
18	Special issue on novel superconducting and magnetic materials. Journal of Physics Condensed Matter, 2020, 32, 040401.	0.7	0

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19	<p>On the Verge of a Hund-Mott Transition: The Different Fates of NaOsO_3 and LiOsO_3. Physical Review Letters, 2020, 125, 166402.</p> <p>Aberrant electronic and structural alterations in pressure tuned perovskite NaOsO_3. Npj Quantum Materials, 2020, 5, .</p>	2.9	10
20	Resolving the adsorption of molecular O_2 on the rutile TiO_2 (110) surface by noncontact atomic force microscopy. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 14827-14837.	3.3	39
21	<p>heterostructure as a possible platform for studying unconventional superconductivity in SrRuO_3. Physical Review B, 2020, 101, .</p> <p>Assessing model-dielectric-dependent hybrid functionals on the antiferromagnetic transition-metal monoxides MnO, FeO, CoO, and NiO. Journal of Physics Condensed Matter, 2020, 32, 015502.</p>	1.1	6
22	Doping Evolution of the Local Electronic and Structural Properties of the Double Perovskite $\text{Ba}_2\text{NaNaxCa}_x\text{Os}_6$. Journal of Physical Chemistry C, 2020, 124, 16577-16585.	1.5	9
23	CuAu, a hexagonal two-dimensional metal. 2D Materials, 2020, 7, 045017.	2.0	11
24	Kagome metal-organic frameworks as a platform for strongly correlated electrons. JPhys Materials, 2020, 3, 025001.	1.8	11
25	Probing structural changes upon carbon monoxide coordination to single metal adatoms. Journal of Chemical Physics, 2020, 152, 051102.	1.2	4
26	Tunable relativistic quasiparticle electronic and excitonic behavior of the $\text{FAPb}(\text{I}_x\text{Br}_{3-x})_3$ alloy. Physical Chemistry Chemical Physics, 2020, 22, 11943-11955.	1.3	18
27	Electron-phonon interactions using the projector augmented-wave method and Wannier functions. Physical Review B, 2020, 101, .	1.1	10
28	Optical Response of an Interacting Polaron Gas in Strongly Polar Crystals. Applied Sciences (Switzerland), 2020, 10, 2059.	1.3	7
29	Small Polarons in Transition Metal Oxides. , 2020, , 1035-1073.		10
30	Comparative <i>ab initio</i> study of the structural, electronic, magnetic, and dynamical properties of LiOsO_3 and NaOsO_3 . Physical Review Materials, 2020, 4, .	0.9	11
31	Challenges and Opportunities in Modeling Oxides for Energy and Information Devices. , 2020, , 1001-1012.		2
32	Influence of Local Defects on the Dynamics of H Bond Breaking and Formation on a Magnetite Surface. Journal of Physical Chemistry C, 2019, 123, 19742-19747.	1.5	11
33	Spin fluctuation induced Weyl semimetal state in the paramagnetic phase of EuCd_2As_2 . Science Advances, 2019, 5, eaaw4718.	4.7	122
34	Local Structure and Coordination Define Adsorption in a Model $\text{Ir}_1\text{Fe}_3\text{O}_4$ Single-Atom Catalyst. Angewandte Chemie - International Edition, 2019, 58, 13961-13968.	7.2	93

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37	Local Structure and Coordination Define Adsorption in a Model Ir ₁ /Fe ₃ O ₄ Single-Atom Catalyst. <i>Angewandte Chemie</i> , 2019, 131, 14099-14106.	1.6	44
38	Intriguing electronic and optical properties of M ₂ CX ₂ (M = Mo, W; X = O, F) MXenes and their van der Waals heterostructures. <i>Chemical Physics Letters</i> , 2019, 731, 136614.	1.2	13
39	Doping-induced insulator-metal transition in the Lifshitz magnetic insulator NaOsO ₃ . <i>Journal of Physics Condensed Matter</i> , 2019, 31, 244002.	0.7	3
40	Viewpoint: Atomic-Scale Design Protocols toward Energy, Electronic, Catalysis, and Sensing Applications. <i>Inorganic Chemistry</i> , 2019, 58, 14939-14980.	1.9	23
41	Superconductivity in SrTiO ₃ : Dielectric Function Method for Non-Parabolic Bands. <i>Journal of Superconductivity and Novel Magnetism</i> , 2019, 32, 2739-2744.	0.8	12
42	Energetics of the coupled electronic-structural transition in the rare-earth nickelates. <i>Npj Quantum Materials</i> , 2019, 4, .	1.8	28
43	Challenges and Opportunities in Modeling Oxides for Energy and Information Devices. , 2019, , 1-13.		0
44	Small Polarons in Transition Metal Oxides. , 2019, , 1-39.		20
45	Interplay between Adsorbates and Polarons: CO on Rutile TiO ₂ . <i>Physical Review Materials</i> , 2019, 3, .	0.9	35
46	Parametrization of LSDA for noncollinear magnetic configurations: Multipolar magnetism in UO ₂ . <i>Physical Review Materials</i> , 2019, 3, .	0.9	35
47	Cubic and tetragonal perovskites from the random phase approximation. <i>Physical Review Materials</i> , 2019, 3, .	0.9	10
48	Defect chemistry of Eu dopants in NaI scintillators studied by atomically resolved force microscopy. <i>Physical Review Materials</i> , 2019, 3, .	0.9	0
49	Diagrammatic Monte Carlo study of Fröhlich polaron dispersion in two and three dimensions. <i>Physical Review B</i> , 2018, 97, .	1.1	26
50	Tunable metal-insulator transition, Rashba effect and Weyl Fermions in a relativistic charge-ordered ferroelectric oxide. <i>Nature Communications</i> , 2018, 9, 492.	5.8	31
51	Polarity compensation mechanisms on the perovskite surface KTaO ₃ (001). <i>Science</i> , 2018, 359, 572-575.	6.0	85
52	Probing the geometry of copper and silver adatoms on magnetite: quantitative experiment versus theory. <i>Nanoscale</i> , 2018, 10, 2226-2230.	2.8	21
53	Ab initio study of A ₂ BiO ₄ (A = Sr, Ba). <i>Physical Review Materials</i> , 2018, 2, .	0.9	35
54	Influence of surface atomic structure demonstrated on oxygen incorporation mechanism at a model perovskite oxide. <i>Nature Communications</i> , 2018, 9, 3710.	5.8	54

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55	Formation and dynamics of small polarons on the rutile TiO_2 (110) surface. <i>Physical Review B</i> , 2018, 98, .	3.3	79
56	Strain-induced tuning of the electronic Coulomb interaction in transition metal oxide perovskites. <i>Physical Review B</i> , 2018, 98, .	1.3	20
57	Water agglomerates on Fe_3O_4 (001). <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, E5642-E5650.	3.3	79
58	Direct measurement of Ni incorporation into Fe_3O_4 (001). <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 16469-16476.	1.3	20
59	Converged quasiparticle energies for transition metal oxide perovskites. <i>Physical Review Materials</i> , 2018, 2, .	0.9	45
60	Relativistic +BSE study of the optical properties of Ruddlesden-Popper iridates. <i>Physical Review Materials</i> , 2018, 2, .	0.9	45
61	$\text{Sr}_3\text{Ir}_2\text{O}_{10}$: Role of epitaxial strain and oxygen vacancies. <i>Physical Review B</i> , 2017, 95, .	1.1	15
62	Dimensionality-strain phase diagram of strontium iridates. <i>Physical Review B</i> , 2017, 95, .	1.1	37
63	Polaron-Driven Surface Reconstructions. <i>Physical Review X</i> , 2017, 7, .	2.8	32
64	Ru doping in iron-based pnictides: The "unfolded" dominant role of structural effects for superconductivity. <i>Physical Review B</i> , 2017, 95, .	1.1	11
65	Dipole Order in Halide Perovskites: Polarization and Rashba Band Splittings. <i>Journal of Physical Chemistry C</i> , 2017, 121, 23045-23054.	1.5	56
66	Behavior of Methylammonium Dipoles in MAPbX_3 (X = Br and I). <i>Journal of Physical Chemistry Letters</i> , 2017, 8, 4113-4121.	2.1	103
67	Assessing the performance of self-consistent hybrid functional for band gap calculation in oxide semiconductors. <i>Journal of Physics Condensed Matter</i> , 2017, 29, 454004.	0.7	33
68	Competing magnetic interactions in a spin-square lattice: Hidden order in Sr_2IrO_7 . <i>Physical Review B</i> , 2017, 96, .	1.1	8
69	Three-Dimensional Electronic Structure of the Type-II Weyl Semimetal WTe_2 . <i>Physical Review Letters</i> , 2017, 119, 026403.	2.9	55
70	Anisotropy of magnetic interactions and symmetry of the order parameter in unconventional superconductor Sr_2RuO_4 . <i>Npj Quantum Materials</i> , 2017, 2, .	1.8	24
71	Ab initio prediction of the high-pressure phase diagram of BaBiO_3 . <i>Physical Review B</i> , 2017, 96, .	1.1	8
72	Ferroelectric Oxides with Strong Visible-Light Absorption from Charge Ordering. <i>Chemistry of Materials</i> , 2017, 29, 2445-2451.	3.2	32

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73	Effective band structure of Ru-doped BaFe ₂ As ₂ . Journal of Physics: Conference Series, 2016, 689, 012027.	0.3	6
74	Electron and hole doping in the relativistic Mott insulator $\text{Sr}^{\text{2}}\text{IrO}_4$. Physical Review B, 2016, 94, .	1.1	27
75	Room-temperature dynamic correlation between methylammonium molecules in lead-iodine based perovskites: An <i>ab initio</i> molecular dynamics perspective. Physical Review B, 2016, 94, .	1.1	62
76	Lifshitz transition driven by spin fluctuations and spin-orbit renormalization in NaOsO ₃ . Physical Review B, 2016, 94, .	1.1	34
77	Donor defects and small polarons on the TiO ₂ (110) surface. Journal of Applied Physics, 2016, 119, .	1.1	51
78	Role of Polar Phonons in the Photo Excited State of Metal Halide Perovskites. Scientific Reports, 2016, 6, 28618.	1.6	234
79	Large enhancement of the photovoltaic effect in ferroelectric complex oxides through bandgap reduction. Scientific Reports, 2016, 6, 28313.	1.6	34
80	Combined first-principles and model Hamiltonian study of the perovskite series $\text{R}^{\text{3}}\text{MnO}$.		

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91	Direct View at Excess Electrons in TiO_2 and Anatase. Physical Review Letters, 2014, 113, 086402.	1.1	17
92	Vacancy clusters at domain boundaries and band bending at the SrTiO_3 surface. Physical Review B, 2014, 90, .	1.1	14
93	The random phase approximation applied to ice. Journal of Chemical Physics, 2014, 140, 084502.	1.2	45
94	Proton Ordering of Cubic Ice Ic: Spectroscopy and Computer Simulations. Journal of Physical Chemistry C, 2014, 118, 10989-10997.	1.5	35
95	Stabilizing Single Ni Adatoms on a Two-Dimensional Porous Titania Overlayer at the $\text{SrTiO}_3(110)$ Surface. Journal of Physical Chemistry C, 2014, 118, 19904-19909.	1.5	14
96	Hybrid functionals applied to perovskites. Journal of Physics Condensed Matter, 2014, 26, 253202.	0.7	81
97	Charge Trapping at the Step Edges of TiO_2 Anatase (101). Angewandte Chemie - International Edition, 2014, 53, 4714-4716.	7.2	102
98	Structural determination and electronic properties of the 4dperovskite SrPdO_3 . Physical Review B, 2014, 89, .	1.1	14
99	Experimental observation of defect pair separation triggering phase transitions. Scientific Reports, 2014, 4, 4110.	1.6	7
100	Rocksalt SnS and SnSe : Native topological crystalline insulators. Physical Review B, 2013, 88, .	1.1	104
101	Structural, Electronic, and Ferroelectric Properties of Compressed CdPbO_3 Polymorphs. Inorganic Chemistry, 2013, 52, 1032-1039.	1.9	14
102	Dual behavior of excess electrons in rutile TiO_2 . Physica Status Solidi - Rapid Research Letters, 2013, 7, 199-203.	1.2	140
103	Tuning the vertical location of helical surface states in topological insulator heterostructures via dual-proximity effects. Scientific Reports, 2013, 3, 1233.	1.6	38
104	Water Adsorption at the Tetrahedral Titania Surface Layer of $\text{SrTiO}_3(110)$ - $(4 \text{ \AA} - 1)$. Journal of Physical Chemistry C, 2013, 117, 26060-26069.	1.5	32
105	Structural transitions and transport-half-metallic ferromagnetism in LaMnO_3 at elevated pressure. Physical Review B, 2012, 85, .	1.1	6
106	Role of self-trapping in luminescence and p -type conductivity of wide-band-gap oxides. Physical Review B, 2012, 85, .	1.1	36
107	Exceptionally large room-temperature ferroelectric polarization in the PbNiO_3 multiferroic nickelate: First-principles study. Physical Review B, 2012, 86, .	1.1	440
108	Exceptionally large room-temperature ferroelectric polarization in the PbNiO_3 multiferroic nickelate: First-principles study. Physical Review B, 2012, 86, .	1.1	36

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109	<p>hybrid functional applied to $3d$ transition metal oxides. <i>Journal of Physics Condensed Matter</i>, 2012, 24, 235602.</p> <p>Maximally localized Wannier functions in $LaMnO_3$ within PBE + U, hybrid functionals and partially self-consistent GW: an efficient route to construct tight-binding parameters for eg perovskites. <i>Journal of Physics Condensed Matter</i>, 2012, 24, 235602.</p>	1.1	146
110	<p>Low Dimensionality and Epitaxial Stabilization in Metal-Supported Oxide Nanostructures: $MnxOy$ on Pd(100). <i>Springer Series in Materials Science</i>, 2012, , 209-237.</p>	0.4	0
112	<p>Tailor-made ultrathin manganese oxide nanostripes: \simmagic widths\sim on Pd(111) terraces. <i>Journal of Physics Condensed Matter</i>, 2012, 24, 042001.</p>	0.7	7
113	<p>Dirac semimetal and topological phase transitions in Bi_2Te_3. <i>Physical Review Letters</i>, 2011, 106, 255501.</p>	1.1	1529
114	<p>Electronic, optical, and mechanical properties of superhard cold-compressed phases of carbon. <i>Applied Physics Letters</i>, 2011, 99, .</p>	1.5	68
115	<p>Hardness of T-carbon: Density functional theory calculations. <i>Applied Physics Letters</i>, 2011, 99, .</p>	1.1	140
116	<p>Exceptionally strong magnetism in the $4d$ perovskites $TcOR$. <i>Physical Review Letters</i>, 2011, 106, 255501.</p>	1.1	42
117	<p>Exchange interactions and magnetic phases of transition metal oxides: Benchmarking advanced ab initio methods. <i>Physical Review B</i>, 2011, 84, .</p>	1.1	66
118	<p>Thickness dependent structural and electronic properties of CuO grown on $SrTiO_3(100)$: a hybrid density functional theory study. <i>Journal of Physics Condensed Matter</i>, 2011, 23, 045004.</p>	0.7	8
119	<p>Strain-driven onset of nontrivial topological insulating states in $ZnTe$. <i>Physical Review Letters</i>, 2011, 106, 255501.</p>		

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127	Two-dimensional manganese oxide nanolayers on Pd(100): the surface phase diagram. Journal of Physics Condensed Matter, 2009, 21, 134008.	0.7	35
128	Halogen-Induced Corrosion of Platinum. Journal of the American Chemical Society, 2009, 131, 2827-2829.	6.6	25
129	Interplay between magnetic, electronic, and vibrational effects in monolayer Mn ₃ O ₄ grown on Pd(100). Journal of Chemical Physics, 2009, 130, 124707.	1.2	32
130	Hybrid density-functional calculation of the electronic and magnetic structures of tetragonal CuO. Physical Review B, 2009, 80, .	1.1	27
131	Polaronic Hole Trapping in Doped BaBiO_3 . Physical Review Letters, 2009, 102, 256402.	2.9	93
132	Ab initio study of the structural, electronic, and magnetic properties of MnO(100) and MnO(110). Physical Review B, 2007, 75, .	1.1	41
133	Formation of Mn_3O_4 on $\text{MnO}(001)$: Surface and interface structural stability. Physical Review B, 2007, 76, .	1.1	62
134	Epitaxial stabilization of MnO(111) overlayers on a Pd(100) surface. Physical Review B, 2007, 75, .	1.1	47
135	Ground-state properties of multivalent manganese oxides: Density functional and hybrid density functional calculations. Physical Review B, 2007, 75, .	1.1	288
136	Superconducting properties of MgB ₂ from first principles. Physica C: Superconductivity and Its Applications, 2007, 456, 45-53.	0.6	46
137	Ab initio prediction of pressure-induced superconductivity in potassium. Physical Review B, 2006, 73, .	1.1	41
138	Density functional study of the polar MnO(111) surface. Physical Review B, 2006, 73, .	1.1	61
139	Superconductivity in Lithium, Potassium, and Aluminum under Extreme Pressure: A First-Principles Study. Physical Review Letters, 2006, 96, 047003.	2.9	159
140	Ab-initio Computation of Superconducting Properties of Elemental Superconductors and MgB ₂ . Journal of Superconductivity and Novel Magnetism, 2005, 18, 649-652.	0.5	2
141	Chemical-pressure-induced modifications on the magnetic and electronic properties of $\text{Ba}_{1-x}\text{Sr}_x\text{VS}_3$. Europhysics Letters, 2005, 71, 952-958.	0.7	3
142	Superconducting Properties of MgB ₂ from First Principles. Physical Review Letters, 2005, 94, 037004.	2.9	137
143	Density functional theory study of MnO by a hybrid functional approach. Physical Review B, 2005, 72, .	1.1	160
144	$(3\text{\AA}-1)\text{-Br/Pt}(110)$ structure and the charge-density-wave-assisted $(2\text{\AA}-2)$ to $(3\text{\AA}-1)$ phase transition. Physical Review B, 2004, 69, .	1.1	23

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145	Role of electronic correlations on the ground-state properties and on the pressure-induced metal-insulator transition in BaVS ₃ . Physical Review B, 2004, 70, .	1.1	8
146	Electronic structure of PbFe _{1/2} Ta _{1/2} O ₃ : Crystallographic ordering and magnetic properties. Physical Review B, 2004, 69, .	1.1	64
147	Chemical Pressure-Induced Ferromagnetism and Stabilization of the Metallic State in Ba _{1-x} Sr _x VS ₃ . International Journal of Modern Physics B, 2003, 17, 3503-3508.	1.0	11
148	Structural, transport, and electronic properties of a layered dichalcogenide AuVS ₂ with semimetallic properties. Physical Review B, 2002, 66, .	1.1	8
149	Structure of the c(2 $\sqrt{2}$ × 2)-Br/Pt(110) surface. Physical Review B, 2002, 65, .	1.1	43
150	Structural and electronic properties of Hg _{1-x} Y _{1+x} Mo ₂ CuO ₄ . Physical Review B, 2000, 62, 9163-9171.	1.1	2