

Andrea Cavalleri

List of Publications by Year in descending order

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136
all docs

136
docs citations

136
times ranked

9963
citing authors

#	ARTICLE	IF	CITATIONS
1	Terahertz phase slips in striped LaO_4 . Physical Review B, 2022, 105, .	3.2	4
2	Nonlocal nonlinear phononics. Nature Physics, 2022, 18, 457-461.	16.7	24
3	Generalized Fresnel-Floquet equations for driven quantum materials. Physical Review B, 2022, 105, .	3.2	9
4	Strongly correlated electron-photon systems. Nature, 2022, 606, 41-48.	27.8	66
5	Amplification of Superconducting Fluctuations in Driven $\text{YBa}_2\text{Cu}_3\text{O}_{6-x}$. Physical Review X, 2022, 12, .	8.9	10
6	Hybrid CO ₂ -Ti:sapphire laser with tunable pulse duration for mid-infrared-pump terahertz-probe spectroscopy. Optics Express, 2021, 29, 3575.	3.4	4
7	Evidence for metastable photo-induced superconductivity in K3C60. Nature Physics, 2021, 17, 611-618.	16.7	80
8	Higgs-Mediated Optical Amplification in a Nonequilibrium Superconductor. Physical Review X, 2021, 11, .	8.9	18
9	Designing and controlling the properties of transition metal oxide quantum materials. Nature Materials, 2021, 20, 1462-1468.	27.5	42
10	Tuning Metastable Light-Induced Superconductivity in K3C60 with a Hybrid CO ₂ -Ti:Sapphire Laser. , 2021, .		1
11	Engineering crystal structures with light. Nature Physics, 2021, 17, 1087-1092.	16.7	85
12	Phase Diagram for Light-Induced Superconductivity in $\text{YBa}_2\text{Cu}_3\text{O}_{6-x}$. Physical Review Letters, 2021, 127, 197002.	7.8	13
13	Light-induced anomalous Hall effect in graphene. Nature Physics, 2020, 16, 38-41.	16.7	487
14	Quantum Electrodynamical Control of Matter: Cavity-Enhanced Ferroelectric Phase Transition. Physical Review X, 2020, 10, .	8.9	72
15	Photoinduced Electron Pairing in a Driven Cavity. Physical Review Letters, 2020, 125, 053602.	7.8	37
16	Photomolecular High-Temperature Superconductivity. Physical Review X, 2020, 10, .	8.9	59
17	Dynamical Order and Superconductivity in a Frustrated Many-Body System. Physical Review Letters, 2020, 125, 137001.	7.8	29
18	Parametric resonance of Josephson plasma waves: A theory for optically amplified interlayer superconductivity in $\text{YBa}_2\text{Cu}_3\text{O}_{6-x}$. Physical Review B, 2020, 102, .	3.2	20

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19	Polarizing an antiferromagnet by optical engineering of the crystal field. Nature Physics, 2020, 16, 937-941.	16.7	99
20	Pump Frequency Resonances for Light-Induced Incipient Superconductivity in $\text{YBa}_2\text{Cu}_3\text{O}_{6.5}$. Physical Review X, 2020, 10, .	3.9	18
21	Floquet dynamics in light-driven solids. Physical Review Research, 2020, 2, .	3.6	33
22	Microscopic theory for the light-induced anomalous Hall effect in graphene. Physical Review B, 2019, 99, .	3.2	117
23	Metastable ferroelectricity in optically strained SrTiO_3 . Science, 2019, 364, 1075-1079.	12.6	227
24	Measuring non-equilibrium dynamics in complex solids with ultrashort X-ray pulses. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2019, 377, 20170478.	3.4	11
25	Cavity-Mediated Electron-Photon Superconductivity. Physical Review Letters, 2019, 122, 133602.	7.8	149
26	TeraHertz Josephson Plasmonics: Controlling Supercurrents in Cuprates. , 2019, , .		0
27	Probing the interatomic potential of solids with strong-field nonlinear phononics. Nature, 2018, 555, 79-82.	27.8	105
28	Probing optically silent superfluid stripes in cuprates. Science, 2018, 359, 575-579.	12.6	65
29	Photo-induced superconductivity. Contemporary Physics, 2018, 59, 31-46.	1.8	95
30	Parametric amplification of optical phonons. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 12148-12151.	7.1	50
31	Magnetic-Field Tuning of Light-Induced Superconductivity in Striped La_2CuO_4 . Physical Review Letters, 2018, 121, 267003.	7.8	21
32	Disorder at the border. Science, 2018, 362, 525-526.	12.6	2
33	Probing dynamics in quantum materials with femtosecond X-rays. Nature Reviews Materials, 2018, 3, 299-311.	48.7	78
34	Pressure tuning of light-induced superconductivity in $\text{K}_3\text{C}_6\text{O}$. Nature Physics, 2018, 14, 837-841.	16.7	78
35	Enhanced electron-phonon coupling in graphene with periodically distorted lattice. Physical Review B, 2017, 95, .	3.2	45
36	Optically induced lattice deformations, electronic structure changes, and enhanced superconductivity in $\text{YBa}_2\text{Cu}_3\text{O}_{6.48}$. Structural Dynamics, 2017, 4, 044007.	2.3	25

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37	Optical melting of the transverse Josephson plasmon: A comparison between bilayer and trilayer cuprates. Physical Review B, 2017, 95, .	3.2	8
38	Dynamical Stability Limit for the Charge Density Wave in K Physical Review Letters, 2017, 118, 116402.	7.8	18
39	Transiently enhanced interlayer tunneling in optically driven high- T_c superconductors. Physical Review B, 2017, 96, .	3.2	13
40	Terahertz field control of interlayer transport modes in cuprate superconductors. Physical Review B, 2017, 96, .	3.2	13
41	Enhancement of superexchange pairing in the periodically driven Hubbard model. Physical Review B, 2017, 96, .	3.2	47
42	Anomalous relaxation kinetics and charge-density-wave correlations in underdoped $\text{BaPb}_{1-x}\text{Bi}_x\text{O}_3$. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 9020-9025.	7.1	14
43	Multiple Supersonic Phase Fronts Launched at a Complex-Oxide Heterointerface. Physical Review Letters, 2017, 118, 027401.	7.8	21
44	Ultrafast Reversal of the Ferroelectric Polarization. Physical Review Letters, 2017, 118, 197601.	7.8	178
45	An effective magnetic field from optically driven phonons. Nature Physics, 2017, 13, 132-136.	16.7	216
46	Generation of narrowband, high-intensity, carrier-envelope phase-stable pulses tunable between 4 and 18 THz. Optics Letters, 2017, 42, 129.	3.3	99
47	Narrowband carrier-envelope phase stable mid-infrared pulses at wavelengths beyond $10\frac{1}{4}\mu\text{m}$ by chirped-pulse difference frequency generation. Optics Letters, 2017, 42, 663.	3.3	15
48	Parametric amplification of a superconducting plasma wave. Nature Physics, 2016, 12, 1012-1016.	16.7	59
49	Dynamical decoherence of the light induced interlayer coupling in $Y\text{Ba}_2\text{Cu}_3\text{O}_{7-x}$ Physical Review Letters, 2016, 117, 227001.	3.2	21
50	Non-equilibrium control of complex solids by nonlinear phononics. Reports on Progress in Physics, 2016, 79, 064503.	20.1	92
51	Josephson plasmonics in layered superconductors. Advances in Physics: X, 2016, 1, 387-411.	4.1	30
52	Nonlinear light-matter interaction at terahertz frequencies. Advances in Optics and Photonics, 2016, 8, 401.	25.5	183
53	Theory of Enhanced Interlayer Tunneling in Optically Driven High- T_c Superconductors. Physical Review Letters, 2016, 117, 227001.	7.8	49
54	Proposed cavity Josephson plasmonics with complex-oxide heterostructures. Physical Review B, 2016, 93, .	3.2	16

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55	Restoring interlayer Josephson coupling in LaCuO_2 charge transfer melting of stripe order. Physical Review B, 2016, 93, .	27.8	241
56	Possible light-induced superconductivity in K3C60 at high temperature. Nature, 2016, 530, 461-464.	27.8	572
57	Wavelength-dependent optical enhancement of superconducting interlayer coupling in LaCuO_2 . Physical Review B, 2016, 93, 11815.	3.2	41
58	THz-Frequency Modulation of the Hubbard U in an Organic Mott Insulator. Physical Review Letters, 2015, 115, 187401.	7.8	69
59	Redistribution of phase fluctuations in a periodically driven cuprate superconductor. Physical Review B, 2015, 91, .	3.2	30
60	Trace phase detection and strain characterization from serial X-ray free-electron laser crystallography of a $\text{Pr}_{0.5}\text{Ca}_{0.5}\text{MnO}_3$ powder. Powder Diffraction, 2015, 30, S25-S30.	0.2	1
61	Wavelength-dependent optical enhancement of superconducting interlayer coupling in LaCuO_2 . Physical Review B, 2016, 93, 11815.	3.2	30
62	Mode-Selective Control of the Crystal Lattice. Accounts of Chemical Research, 2015, 48, 380-387.	15.6	58
63	Spatially resolved ultrafast magnetic dynamics initiated at a complex oxide heterointerface. Nature Materials, 2015, 14, 883-888.	27.5	109
64	Population inversion in monolayer and bilayer graphene. Journal of Physics Condensed Matter, 2015, 27, 164204.	1.8	40
65	Phonon-Pump Extreme-Ultraviolet-Photoemission Probe in Graphene: Anomalous Heating of Dirac Carriers by Lattice Deformation. Physical Review Letters, 2015, 114, 125503.	7.8	29
66	Proposed Parametric Cooling of Bilayer Cuprate Superconductors by Terahertz Excitation. Physical Review Letters, 2015, 114, 137001.	7.8	67
67	Coherent modulation of the $\text{YBa}_2\text{Cu}_3\text{O}_{6-x}$ superconducting gap. Physical Review Letters, 2014, 112, 117801.	3.2	45
68	Non-equilibrium Dirac carrier dynamics in graphene investigated with time- and angle-resolved photoemission spectroscopy. Faraday Discussions, 2014, 171, 311-321.	3.2	26
69	Pulse shaping in the mid-infrared by a deformable mirror. Optics Letters, 2014, 39, 1485.	3.3	14
70	Nonlinear lattice dynamics as a basis for enhanced superconductivity in $\text{YBa}_2\text{Cu}_3\text{O}_{6.5}$. Nature, 2014, 516, 71-73.	27.8	391
71	Pressure-Dependent Relaxation in the Photoexcited Mott Insulator $\text{YBa}_2\text{Cu}_3\text{O}_{6-x}$. Physical Review Letters, 2014, 112, 117801.	7.8	58
72	Optically enhanced coherent transport in $\text{YBa}_2\text{Cu}_3\text{O}_{6.5}$ by ultrafast redistribution of interlayer coupling. Nature Materials, 2014, 13, 705-711.	27.5	333

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73	cond x rays link melting of charge-density wave correlations and light-enhanced coherent transport in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$. <i>Physical Review Letters</i> , 2014, 112, 157002.	3.2	46
74	Optically induced superconductivity in striped $\text{La}_{1-x}\text{Sr}_x\text{CuO}_2$ by polarization-selective excitation in the near infrared. <i>Physical Review B</i> , 2014, 90, .	3.2	102
75	Melting of Charge Stripes in Vibrationally Driven $\text{La}_{1-x}\text{Sr}_x\text{CuO}_2$. <i>Physical Review Letters</i> , 2014, 112, 157002.	7.8	82
76	Optically induced coherent transport far above T_c in underdoped $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$. <i>Physical Review B</i> , 2014, 89, .	3.2	230
77	Theory of nonlinear phononics for coherent light control of solids. <i>Physical Review B</i> , 2014, 89, .	3.2	178
78	Optical Properties of a Vibrationally Modulated Solid State Mott Insulator. <i>Scientific Reports</i> , 2014, 4, 3823.	3.3	40
79	Displacive lattice excitation through nonlinear phononics viewed by femtosecond X-ray diffraction. <i>Solid State Communications</i> , 2013, 169, 24-27.	1.9	48
80	Snapshots of non-equilibrium Dirac carrier distributions in graphene. <i>Nature Materials</i> , 2013, 12, 1119-1124.	27.5	397
81	Optical excitation of Josephson plasma solitons in a cuprate superconductor. <i>Nature Materials</i> , 2013, 12, 535-541.	27.5	82
82	Possible observation of parametrically amplified coherent phasons in KMoO_3 using time-resolved extreme-ultraviolet angle-resolved photoemission spectroscopy. <i>Physical Review B</i> , 2013, 88, .	3.2	32
83	Terahertz Josephson plasma solitons in high- T_c superconductors. , 2013, , .		0
84	Evolution of three-dimensional correlations during the photoinduced melting of antiferromagnetic order in $\text{La}_{1-x}\text{Sr}_x\text{CuO}_2$. <i>Physical Review B</i> , 2013, 88, .	3.2	19
85	Ultrafast Strain Engineering in Complex Oxide Heterostructures. <i>Physical Review Letters</i> , 2012, 108, 136801.	7.8	131
86	Driving magnetic order in a manganite by ultrafast lattice excitation. <i>Physical Review B</i> , 2011, 84, .	3.2	130
87	Nonlinear phononics as an ultrafast route to lattice control. <i>Nature Physics</i> , 2011, 7, 854-856.	16.7	369
88	Photoinduced Melting of Antiferromagnetic Order in $\text{La}_{1-x}\text{Sr}_x\text{CuO}_2$ Using Ultrafast Resonant Soft X-Ray Diffraction. <i>Physical Review Letters</i> , 2011, 106, 217401.	7.8	89
89	Coherent single-cycle pulses with MV/cm field strengths from a relativistic transition radiation light source. <i>Optics Letters</i> , 2011, 36, 4473.	3.3	48
90	Bi-directional ultrafast electric-field gating of interlayer charge transport in a cuprate superconductor. <i>Nature Photonics</i> , 2011, 5, 485-488.	31.4	89

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91	Transient photoinduced ϵ -hidden ϵ ™ phase in $\text{Mn}_{1-x}\text{Te}_x$. Nature Materials, 2011, 10, 101-105.	27.5	216
92	Quantum interference between charge excitation paths in a solid-state Mott insulator. Nature Physics, 2011, 7, 114-118.	16.7	134
93	Closing the Melting Transition of Charge and Lattice Order in TaS_2 with Ultrafast Extreme-Ultraviolet Angle-Resolved Photoemission Spectroscopy. Physical Review Letters, 2011, 107, 177402.	7.8	186
94	Light-Induced Superconductivity in a Stripe-Ordered Cuprate. Science, 2011, 331, 189-191.	12.6	883
95	Ultrafast insulator-to-metal phase transition as a switch to measure the spectrogram of a supercontinuum light pulse. Applied Physics Letters, 2010, 96, .	3.3	55
96	Single-shot detection and direct control of carrier phase drift of midinfrared pulses. Optics Letters, 2010, 35, 757.	3.3	90
97	Transient electronic structure of the photoinduced phase of $\text{Pr}_{1-x}\text{Ce}_x\text{VO}_4$ with soft x-ray pulses. Physical Review B, 2009, 80, .	3.2	18
98	Melted in a flash. Nature, 2009, 458, 42-43.	27.8	6
99	Ultrafast single-shot diffraction imaging of nanoscale dynamics. Nature Photonics, 2008, 2, 415-419.	31.4	221
100	Ultrafast Electronic Phase Transition in $\text{La}_{1-x}\text{Ce}_x\text{VO}_4$: Coherent Vibrational Excitation: Evidence for Nonthermal Melting of Orbital Order. Physical Review Letters, 2008, 101, 197404.	7.8	285
101	Optical switching in VO_2 films by below-gap excitation. Applied Physics Letters, 2008, 92, .	3.3	126
102	Enhanced Photosusceptibility near T_c for the Light-Induced Insulator-to-Metal Phase Transition in Vanadium Dioxide. Physical Review Letters, 2007, 99, 226401.	7.8	203
103	All at Once. Science, 2007, 318, 755-756.	12.6	20
104	Double vision. Nature, 2007, 448, 651-652.	27.8	7
105	Coherent orbital waves in the photo-induced insulator ϵ -metal dynamics of $\text{La}_{1-x}\text{Ce}_x\text{VO}_4$ magnetoresistive manganite. Nature Materials, 2007, 6, 643-647.	27.5	139
106	Control of the electronic phase of a manganite by mode-selective vibrational excitation. Nature, 2007, 449, 72-74.	27.8	512
107	Tracking the motion of charges in a terahertz light field by femtosecond X-ray diffraction. Nature, 2006, 442, 664-666.	27.8	94
108	Ultra-Broadband Femtosecond Measurements of the Photo-Induced Phase Transition in VO_2 : From the Mid-IR to the Hard X-rays. Journal of the Physical Society of Japan, 2006, 75, 011004.	1.6	47

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109	Time resolved conductivity dynamics in vanadium dioxide. , 2006, , .		0
110	Band-Selective Measurements of Electron Dynamics in VO ₂ Using Femtosecond Near-Edge X-Ray Absorption. Physical Review Letters, 2005, 95, 067405.	7.8	247
111	Photoinduced phase transition in VO ₂ nanocrystals: ultrafast control of surface-plasmon resonance. Optics Letters, 2005, 30, 558.	3.3	175
112	Evidence for a structurally-driven insulator-to-metal transition in VO ₂ : A view from the ultrafast timescale. Physical Review B, 2004, 70, .	3.2	599
113	Femtosecond X-ray measurement of coherent lattice vibrations near the Lindemann stability limit. Nature, 2003, 422, 287-289.	27.8	566
114	MATERIALS SCIENCE: Creating Transient Crystal Structures with Light. Science, 2003, 300, 591-592.	12.6	11
115	Generation of the low-density liquid phase of carbon by non-thermal melting of fullerite. Europhysics Letters, 2002, 57, 281-287.	2.0	16
116	Femtosecond X-ray Studies of Photo-induced Structural Phase Transitions. Phase Transitions, 2002, 75, 769-777.	1.3	3
117	Femtosecond Structural Dynamics in VO ₂ during an Ultrafast Solid-Solid Phase Transition. Physical Review Letters, 2001, 87, 237401.	7.8	1,082
118	Femtosecond X-Ray Measurement of Ultrafast Melting and Large Acoustic Transients. Physical Review Letters, 2001, 87, 225701.	7.8	236
119	Generation and application of ultrashort X-ray pulses. Laser and Particle Beams, 2001, 19, 15-22.	1.0	29
120	Anharmonic Lattice Dynamics in Germanium Measured with Ultrafast X-Ray Diffraction. Physical Review Letters, 2000, 85, 586-589.	7.8	137
121	Femtosecond melting and ablation of semiconductors studied with time of flight mass spectroscopy. Journal of Applied Physics, 1999, 85, 3301-3309.	2.5	189
122	Picosecond femtosecond lattice dynamics measured by ultrafast X-ray diffraction. Nature, 1999, 398, 310-312.	27.8	531
123	Single-pulse time- and fluence-resolved optical measurements at femtosecond excited surfaces. Applied Physics A: Materials Science and Processing, 1999, 69, 577-579.	2.3	20
124	Detection of Nonthermal Melting by Ultrafast X-ray Diffraction. Science, 1999, 286, 1340-1342.	12.6	506
125	Synthesis of carbon nano- and meso-structures by laser-induced coalescence of fullerenes. Carbon, 1998, 36, 495-497.	10.3	3
126	Self organized growth and ultrafast electron dynamics of metallic nanoparticles. Thin Solid Films, 1998, 318, 73-75.	1.8	2

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127	Transient States of Matter during Short Pulse Laser Ablation. Physical Review Letters, 1998, 81, 224-227.	7.8	511
128	Thermal and nonthermal melting of gallium arsenide after femtosecond laser excitation. Physical Review B, 1998, 58, R11805-R11808.	3.2	159
129	Femtosecond laser ablation of gallium arsenide investigated with time-of-flight mass spectroscopy. Applied Physics Letters, 1998, 72, 2385-2387.	3.3	50
130	Coherent acoustic oscillations in metallic nanoparticles generated with femtosecond optical pulses. Physical Review B, 1997, 55, R13424-R13427.	3.2	144
131	Relativistic generation and characterization of ultrafast X-rays for time-resolved diffraction and spectroscopy. , 0, , .		0
132	Propagation of picosecond acoustic pulses in semiconductor heterostructures probed by ultrafast X-ray diffraction. , 0, , .		0
133	Relativistic generation and characterization of ultrafast X-rays for time-resolved diffraction and spectroscopy. , 0, , .		0