

# Matthieu Le Tacon

## List of Publications by Year in descending order

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102  
papers

6,973  
citations

87888

38  
h-index

56724

83  
g-index

103  
all docs

103  
docs citations

103  
times ranked

4928  
citing authors

#	ARTICLE	IF	CITATIONS
1	Effect of pseudogap on electronic anisotropy in the strain dependence of the superconducting gap in underdoped $YBa_2Cu_3O_{6+x}$ . Physical Review B, 2022, 105, .	3.2	1
2	Absence of temperature-dependent phonon anomalies in $YBa_2Cu_3O_{6+x}$ . Physical Review B, 2022, 105, .	3.2	0
3	Magnetic domain walls of the van der Waals material $Fe_3GeTe_2$ . 2D Materials, 2022, 9, 025022.	4.4	9
4	Paramagnons and high-temperature superconductivity in a model family of cuprates. Nature Communications, 2022, 13, .	12.8	17
5	Dynamics of collective modes in an unconventional charge density wave system $BaNi_2As_2$ . Communications Physics, 2022, 5, .	5.3	11
6	Unconventional quantum vortex matter state hosts quantum oscillations in the underdoped high-temperature cuprate superconductors. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	10
7	Evidence for nesting-driven charge density wave instabilities in the quasi-two-dimensional material $LaAgSb_2$ . Physical Review Research, 2021, 3, .	8.6	11
8	Strange bedfellows inside a superconductor. Science, 2021, 373, 1438-1439.	12.6	2
9	In-plane Isotropy of the Low Energy Phonon Anomalies in $YBa_2Cu_3O_{6+x}$ . Journal of the Physical Society of Japan, 2021, 90, 111006.	1.6	2
10	Charge Density Waves in $YBa_2Cu_3O_{6.67}$ Probed by Resonant X-Ray Scattering under Uniaxial Comp. Physical Review Letters, 2021, 126, 037002.	7.8	26
11	Influence of the vicinal substrate miscut on the anisotropic two-dimensional electronic transport in $Al_2O_3/SrTiO_3$ heterostructures. Journal of Applied Physics, 2020, 128, 085302.	2.5	2
12	Strange semimetal dynamics in $SrIrO_3$ . Nature Communications, 2020, 11, 4270.	12.8	15
13	Electronic correlations in the van der Waals ferromagnet $Fe_3GeTe_2$ revealed by its charge dynamics. Physical Review B, 2020, 102, .	8.3	10
14	Structural, Electronic and Magnetic Properties of a Few Nanometer-Thick Superconducting $NdBa_2Cu_3O_7$ Films. Nanomaterials, 2020, 10, 817.	4.1	0
15	Anomalous pressure dependence of the electronic transport and anisotropy in $SrIrO_3$ films. Journal of Physics Condensed Matter, 2020, 32, 345601.	1.8	4
16	Hard antinodal gap revealed by quantum oscillations in the pseudogap regime of underdoped high- $T_c$ superconductors. Nature Physics, 2020, 16, 841-847.	16.7	7
17	Inelastic x-ray scattering studies of phonon dispersions in superconductors at high pressures. Superconductor Science and Technology, 2020, 33, 124004.	3.5	3
18	Raman scattering study of lattice and magnetic excitations in $CrAs$ . Physical Review B, 2019, 100, .	3.2	7

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19	<p>Polynomial-resolved Cu <math>\mu</math>-SR</p> <p>edge resonant inelastic x-ray scattering of orbital and spin excitations in <math>\text{NdBa}_2\text{Cu}_3\text{O}_{7-x}</math>. Physical Review B, 2019, 99, .</p>	3.2	35
20	Resonant inelastic x-ray scattering study of bond order and spin excitations in nickelate thin-film structures. Physical Review B, 2019, 99, .	3.2	11
21	Rapid suppression of the charge density wave in $\text{YBa}_2\text{Cu}_3\text{O}_{6.6}$ under hydrostatic pressure. Physical Review B, 2018, 97, .	3.2	26
22	Incommensurate Phonon Anomaly and the Nature of Charge Density Waves in Cuprates. Physical Review X, 2018, 8, .	8.9	41
23	Phonon spectrum of single-crystalline FeSe probed by high-resolution electron energy-loss spectroscopy. Physica C: Superconductivity and Its Applications, 2018, 549, 18-21.	1.2	3
24	Probing the energy gap of high-temperature cuprate superconductors by resonant inelastic x-ray scattering. Npj Quantum Materials, 2018, 3, .	5.2	13
25	Uniaxial pressure control of competing orders in a high-temperature superconductor. Science, 2018, 362, 1040-1044.	12.6	122
26	Coupling between dynamic magnetic and charge-order correlations in the cuprate superconductor $\text{NdBa}_2\text{Cu}_3\text{O}_{7-x}$ . Physical Review B, 2018, 98, .	3.2	33
27	Spectral Evidence for Emergent Order in $\text{BaCu}_2\text{O}_7$ . Physical Review Letters, 2018, 121, 127001.	7.8	11
28	Complex magnetic order in nickelate slabs. Nature Physics, 2018, 14, 1097-1102.	16.7	37
29	Site-Selective Probe of Magnetic Excitations in Rare-Earth Nickelates Using Resonant Inelastic X-ray Scattering. Physical Review X, 2018, 8, .	8.9	26
30	High field charge order across the phase diagram of $\text{YBa}_2\text{Cu}_3\text{O}_y$ . Npj Quantum Materials, 2018, 3, .	5.2	32
31	Light-induced metastable state in charge-ordered $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ . Physical Review B, 2018, 98, .	3.2	1
32	Re-entrant charge order in overdoped $(\text{Bi,Pb})_{2.12}\text{Sr}_{1.88}\text{CuO}_6$ outside the pseudogap regime. Nature Materials, 2018, 17, 697-702.	27.5	93
33	Patterning of two-dimensional electron systems in $\text{SrTiO}_3$ based heterostructures using a $\text{CeO}_2$ template. AIP Advances, 2017, 7, .	1.3	7
34	Heat capacity on data of DSC calorimetry and thermodynamic functions of barium cerate doped by holmium and indium oxides in the temperature range of 200-700 K. Journal of Thermal Analysis and Calorimetry, 2017, 130, 1125-1131.	3.6	19
35	Accessing the entire overdoped regime in pristine $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ by application of pressure. Physical Review B, 2017, 95, .	3.2	10
36	Capture of heavy hydrogen isotopes in a metal-organic framework with active Cu(I) sites. Nature Communications, 2017, 8, 14496.	12.8	98

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37	Synchrotron x-ray scattering study of charge-density-wave order in $\text{HgBa}_2\text{Mn}_2\text{O}_8$ . Physical Review B, 2017, 96, .	3.2	10
38	Phonon dispersion relation of single-crystalline $\hat{\Gamma}^2$ -FeSe. Physical Review B, 2017, 96, .	3.2	10
39	Crossover from Collective to Incoherent Spin Excitations in Superconducting Cuprates Probed by Detuned Resonant Inelastic X-Ray Scattering. Physical Review Letters, 2017, 119, 097001.	7.8	26
40	Raman scattering study of vibrational and magnetic excitations in $\text{SrLa}_2\text{Mn}_2\text{O}_8$ . Physical Review B, 2017, 96, .	3.2	36
41	Raman Scattering from Higgs Mode Oscillations in the Two-Dimensional Antiferromagnet $\text{CaMn}_2\text{O}_4$ . Physical Review Letters, 2017, 119, 067201.	7.8	65
42	Influence of apical oxygen on the extent of in-plane exchange interaction in cuprate superconductors. Nature Physics, 2017, 13, 1201-1206.	16.7	90
43	Inelastic X ray scattering under pressure to probe the quantum phase transition in the transition metal dichalcogenides. Journal of Physics: Conference Series, 2017, 950, 032017.	0.4	0
44	Doping-dependent charge order correlations in electron-doped cuprates. Science Advances, 2016, 2, e1600782.	10.3	65
45	Persistent Paramagnons Deep in the Metallic Phase of $\text{SrMn}_2\text{O}_7$ . Physical Review Letters, 2016, 117, 107001.	7.8	68
46	Soft-phonon-driven orbital order in $\text{CaMn}_7\text{O}_{12}$ . Physical Review B, 2016, 94, .	3.2	13
47	Direct observation of charge order in underdoped and optimally doped $\text{BiMn}_2\text{O}_7$ . Physical Review B, 2016, 94, .	3.2	51
48	Two-Magnon Raman Scattering and Pseudospin-Lattice Interactions in $\text{Sr}_2\text{IrO}_7$ . Physical Review Letters, 2016, 116, 136401.	7.8	63
49	Long-range charge-density-wave proximity effect at cuprate/manganate interfaces. Nature Materials, 2016, 15, 831-834.	27.5	46
50	Crystal growth and intrinsic magnetic behaviour of $\text{Sr}_2\text{IrO}_4$ . Philosophical Magazine, 2016, 96, 413-426.	1.6	39
51	Strong anharmonicity induces quantum melting of charge density wave in $\text{HfMn}_2\text{O}_8$ under pressure. Physical Review B, 2015, 92, .		
52	In-between Bragg reflections: thermal diffuse scattering and vibrational spectroscopy with x-rays. Journal Physics D: Applied Physics, 2015, 48, 504003.	2.8	16
53	Collective Nature of Spin Excitations in Superconducting Cuprates Probed by Resonant Inelastic X-Ray Scattering. Physical Review Letters, 2015, 114, 217003.	7.8	81
54	Raman light scattering on ultra-thin films of $\text{LaNiO}_3$ under compressive strain. Physica B: Condensed Matter, 2015, 460, 196-198.	2.7	25

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55	Polarization effects on spectra of spherical core/shell nanostructures: Perturbation theory against finite difference approach. Physica B: Condensed Matter, 2015, 458, 73-84.	2.7	11
56	Enhancement of Superconducting Coherence in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>x</sub> by Resonant Lattice Excitation. Springer Proceedings in Physics, 2015, , 214-217.	0.2	0
57	Structural and electronic properties of epitaxial YBa <sub>2</sub> Cu <sub>3</sub> O <sub>7-δ</sub> La <sub>0.67</sub> Ca <sub>0.33</sub> MnO <sub>3</sub> bilayers grown on SrTiO <sub>3</sub> (1 1 0) substrates. Physica C: Superconductivity and Its Applications, 2014, 505, 70-73.	1.2	4
58	The simultaneous measurement of energy and linear polarization of the scattered radiation in resonant inelastic soft x-ray scattering. Review of Scientific Instruments, 2014, 85, 115104.	1.3	43
59	Charge order and its connection with Fermi-liquid charge transport in a pristine high-T <sub>c</sub> cuprate. Nature Communications, 2014, 5, 5875.	12.8	259
60	Short-Range Correlations in Magnetite above the Verwey Temperature. Physical Review X, 2014, 4, .	8.9	36
61	Tunable Charge and Spin Order in PrNiO <sub>3</sub> Thin Films and Superlattices. Physical Review Letters, 2014, 113, 227206.	7.8	91
62	Pressure-induced phase transition and superconductivity in YBa <sub>2</sub> Cu <sub>4</sub> O <sub>8</sub> . Physical Review B, 2014, 90, .	3.9	13
63	Optically enhanced coherent transport in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>6.5</sub> by ultrafast redistribution of interlayer coupling. Nature Materials, 2014, 13, 705-711.	27.5	333
64	Ubiquitous Interplay Between Charge Ordering and High-Temperature Superconductivity in Cuprates. Science, 2014, 343, 393-396.	12.6	506
65	Charge Order Driven by Fermi-Arc Instability in Bi <sub>2</sub> Sr <sub>2</sub> LaCuO <sub>6+δ</sub> . Science, 2014, 343, 390-392.	12.6	512
66	Inelastic X-ray scattering in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>6.6</sub> reveals giant phonon anomalies and elastic central peak due to charge-density-wave formation. Nature Physics, 2014, 10, 52-58.	16.7	237
67	Resonant x-ray scattering study of charge-density wave correlations in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>6.6</sub> . Physical Review B, 2014, 90, .	3.2	46
68	Resonant x-ray scattering study of charge-density wave correlations in YBa <sub>2</sub> Cu <sub>3</sub> O <sub>6.6</sub> . Physical Review B, 2014, 90, .	3.2	262
69	Superconductivity-induced phonon renormalization on underdoped YBa <sub>2</sub> Cu <sub>3</sub> O <sub>6.6</sub> . Physical Review B, 2014, 90, .	3.2	230
70	Superconductivity-induced phonon renormalization on NaFeCo <sub>1-x</sub> . Physical Review B, 2014, 89, .	3.1	8
71	Dispersive spin excitations in highly overdoped cuprates revealed by resonant inelastic x-ray scattering. Physical Review B, 2013, 88, .	3.2	83
72	Anharmonicity due to Electron-Phonon Coupling in Magnetite. Physical Review Letters, 2013, 110, 207204.	7.8	42

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73	Lattice dynamical signature of charge density wave formation in underdoped $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ . Physical Review B, 2013, 88, .	3.2	25
74	Momentum-Dependent Charge Correlations in $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ Probed by Resonant X-Ray Scattering: Evidence for Three Competing Phases. Physical Review Letters, 2013, 110, 187001.	7.8	108
75	Magnetic excitations in stripe-ordered $\text{La}_{1.875}\text{Ba}_{0.125}\text{CuO}_4$ studied using resonant inelastic x-ray scattering. Physical Review B, 2013, 88, .	3.2	32
76	Comparison of charge modulations in $\text{La}_{1.875}\text{Ba}_{0.125}\text{CuO}_4$ and $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ . Physical Review Letters, 2013, 111, 187001.	3.2	36
77	Doping-Dependent Photon Scattering Resonance in the Model High-Temperature Superconductor $\text{HgBa}_2\text{CuO}_4$ by Raman Scattering and Optical Ellipsometry. Physical Review Letters, 2013, 111, 187001.	7.8	25
78	Thermoelectric properties of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ $\text{La}_{2/3}\text{Ca}_{1/3}\text{MnO}_3$ superlattices. Applied Physics Letters, 2012, 101, 131603.	3.3	12
79	Raman scattering study of the lattice dynamics of superconducting $\text{LiFeAs}$ . Physical Review B, 2012, 85, .	3.2	16
80	Anomalous dependence of $c$ -axis polarized $\text{Fe-B}$ mode with Fe and Se concentrations in $\text{Fe}_x\text{Mg}_{1-x}\text{B}_2$ . Physical Review B, 2012, 86, .	3.2	26
81	Anharmonic suppression of charge density waves in $\text{Hf-NbS}_2$ . Physical Review B, 2012, 86, .	3.2	66
82	Feedback Effect on High-Energy Magnetic Fluctuations in the Model High-Temperature Superconductor $\text{HgBa}_2\text{CuO}_{4+x}$ Observed by Electronic Raman Scattering. Physical Review Letters, 2012, 108, 227003.	7.8	26
83	Anomalous In-Plane Electronic Scattering in Charge Ordered $\text{Na}_{0.41}\text{CoO}_2 \cdot 0.6\text{H}_2\text{O}$ . Physical Review Letters, 2012, 108, 236401.	7.8	5
84	Distinct Charge Orders in the Planes and Chains of Ortho-III-Ordered $\text{YBa}_2\text{Cu}_3\text{O}_{6+x}$ Superconductors Identified by Resonant Elastic X-ray Scattering. Physical Review Letters, 2012, 109, 167001.	7.8	254
85	Long-Range Incommensurate Charge Fluctuations in $(\text{Y,Nd})\text{Ba}_{2-x}\text{Cu}_3\text{O}_{6+x}$ . Science, 2012, 337, 821-825.	12.6	938
86	Long-range transfer of electron-phonon coupling in oxide superlattices. Nature Materials, 2012, 11, 675-681.	27.5	82
87	Intense paramagnon excitations in a large family of high-temperature superconductors. Nature Physics, 2011, 7, 725-730.	16.7	349
88	Inelastic X-ray scattering investigations of lattice dynamics in $\text{SmFeAsO}_{1-x}\text{F}_x$ superconductors. Journal of Physics and Chemistry of Solids, 2011, 72, 523-526.	4.0	3
89	Understanding the Complex Phase Diagram of Uranium: The Role of Electron-Phonon Coupling. Physical Review Letters, 2011, 107, 136401.	7.8	47
90	High frequency dynamics of BMG determined by synchrotron radiation: A microscopic picture. Journal of Alloys and Compounds, 2010, 495, 319-322.	5.5	4

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91	Inelastic x-ray scattering study of superconducting $\text{SmFeAsO}$ crystals: Evidence for strong momentum-dependent doping-induced renormalizations of optical phonons. <i>Physical Review B</i> , 2008, 80, .	3.2	1
92	Nodal and antinodal gaps in the superconducting state of cuprates. <i>Journal of Physics and Chemistry of Solids</i> , 2008, 69, 3049-3051.	4.0	1
93	Phonon density of states in $\text{NdFeAsO}_{1-x}\text{F}_x$ . <i>Physical Review B</i> , 2008, 78, .	3.2	41
94	Breakpoint in the evolution of the gap through the cuprate phase diagram. <i>Physical Review B</i> , 2008, 77, .	3.2	43
95	Temperature Dependence of the Gap Size near the Brillouin-Zone Nodes of $\text{HgBa}_2\text{CuO}_4$ . <i>Physical Review Letters</i> , 2008, 101, 097003.	7.8	40
96	Investigations of the relationship between $T_c$ and the superconducting gap under magnetic and nonmagnetic impurity substitutions in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ . <i>Physical Review Letters</i> , 2008, 101, 097003.	3.2	21
97	Dichotomy in quasiparticles dynamics of underdoped cuprates in the superconducting state. <i>Physica C: Superconductivity and Its Applications</i> , 2007, 460-462, 358-361.	1.2	2
98	Two energy scales and two distinct quasiparticle dynamics in the superconducting state of underdoped cuprates. <i>Nature Physics</i> , 2006, 2, 537-543.	16.7	301
99	Interplay between the $A_{1g}$ electronic Raman scattering peak and the neutron magnetic resonance. <i>Journal of Physics and Chemistry of Solids</i> , 2006, 67, 503-508.	4.0	6
100	Coupling between quasiparticles and a bosonic mode in the normal state of $\text{HgBa}_2\text{CuO}_4 + \hat{\Gamma}$ . <i>Europhysics Letters</i> , 2006, 73, 594-600.	2.0	6
101	Impurity-Induced Local Magnetism and Density of States in the Superconducting State of $\text{YBa}_2\text{Cu}_3\text{O}_7$ . <i>Physical Review Letters</i> , 2006, 96, 127005.	7.8	31
102	Two distinct electronic contributions in the fully symmetric Raman response of high- $T_c$ cuprates. <i>Physical Review B</i> , 2005, 71, .	3.2	17