

# Samir Lounis

## List of Publications by Year in descending order

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114  
papers

3,128  
citations

159525

30  
h-index

182361

51  
g-index

119  
all docs

119  
docs citations

119  
times ranked

2509  
citing authors

#	ARTICLE	IF	CITATIONS
1	Anomalous excitations of atomically crafted quantum magnets. <i>Science Advances</i> , 2022, 8, eabi7291.	4.7	8
2	Reply to "Comment on "Proper and improper chiral magnetic interactions" $\text{Mn}$ ". <i>Physical Review B</i> , 2022, 105, .	1.1	4
3	Polarisation-dependent single-pulse ultrafast optical switching of an elementary ferromagnet. <i>Communications Physics</i> , 2022, 5, .	2.0	9
4	Spin-orbit enabled all-electrical readout of chiral spin-textures. <i>Nature Communications</i> , 2022, 13, 1576.	5.8	9
5	Complex magnetic structure and spin waves of the noncollinear antiferromagnet $\text{Mn}_5\text{Si}_3\text{Te}_8$ . <i>Physical Review B</i> , 2022, 105, .	1.1	5
6	Generalization of the Landau-Lifshitz-Gilbert equation by multi-body contributions to Gilbert damping for non-collinear magnets. <i>Journal of Physics Condensed Matter</i> , 2022, 34, 285802.	0.7	6
7	Interplay of magnetic states and hyperfine fields of iron dimers on MgO(001). <i>Journal of Physics Condensed Matter</i> , 2022, 34, 385802.	0.7	1
8	Spin waves in the collinear antiferromagnetic phase of $\text{Mn}_2\text{Te}$ . <i>Physical Review B</i> , 2021, 103, .	1.1	5
9	Complex magnetism of the two-dimensional antiferromagnetic $\text{Ge}_2\text{F}$ : from a Néel spin-texture to a potential antiferromagnetic skyrmion. <i>RSC Advances</i> , 2021, 11, 8654-8663.	1.7	4
10	Friedel Oscillations Induced by Magnetic Skyrmions: From Scattering Properties to All-Electrical Detection. <i>Nanomaterials</i> , 2021, 11, 194.	1.9	5
11	Short period magnetization texture of $\text{B20-MnGe}$ explained by thermally fluctuating local moments. <i>Physical Review B</i> , 2021, 103, .	1.1	18
12	Correlating Josephson supercurrents and Shiba states in quantum spins unconventionally coupled to superconductors. <i>Nature Communications</i> , 2021, 12, 1108.	5.8	21
13	Multiple magnetic states of CoPc molecule on a two-dimensional layer of $\text{NbSe}_2$ . <i>Journal of Physics Condensed Matter</i> , 2021, 33, 205802.	0.7	0
14	Transverse Transport in Two-Dimensional Relativistic Systems with Nontrivial Spin Textures. <i>Physical Review Letters</i> , 2021, 126, 147203.	2.9	19
15	Proper and improper chiral magnetic interactions. <i>Physical Review B</i> , 2021, 103, .	1.1	14
16	Interplay of Dzyaloshinskii-Moriya and Kitaev interactions for magnonic properties of Heisenberg-Kitaev honeycomb ferromagnets. <i>Physical Review B</i> , 2021, 103, .	1.1	14
17	DFT investigation of magnetocrystalline anisotropy of Mn-doped transition-metal dichalcogenide monolayers. <i>Physical Review Materials</i> , 2021, 5, .	0.9	8
18	Trends in the hyperfine interactions of magnetic adatoms on thin insulating layers. <i>Npj Computational Materials</i> , 2021, 7, .	3.5	7

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19	Mechanism for ultrafast electric-field driven skyrmion nucleation. <i>Physical Review B</i> , 2021, 104, .	1.1	9
20	Topological magnon insulators in two-dimensional van der Waals ferromagnets CrSiTe <sub>3</sub> and CrGeTe <sub>3</sub> : Toward intrinsic gap-tunability. <i>Science Advances</i> , 2021, 7, eabi7532.	4.7	56
21	Long range and highly tunable interaction between local spins coupled to a superconducting condensate. <i>Nature Communications</i> , 2021, 12, 6722.	5.8	23
22	Probing the pinning strength of magnetic vortex cores with sub-nanometer resolution. <i>Nature Communications</i> , 2020, 11, 2833.	5.8	19
23	Controlling in-gap end states by linking nonmagnetic atoms and artificially-constructed spin chains on superconductors. <i>Nature Communications</i> , 2020, 11, 4707.	5.8	34
24	Nonreciprocity of spin waves in noncollinear magnets due to the Dzyaloshinskii-Moriya interaction. <i>Physical Review B</i> , 2020, 102, .	1.1	21
25	Sub-nanoscale atom-by-atom crafting of skyrmion-defect interaction profiles. <i>Scientific Reports</i> , 2020, 10, 14655.	1.6	16
26	A new view on the origin of zero-bias anomalies of Co atoms atop noble metal surfaces. <i>Nature Communications</i> , 2020, 11, 6112.	5.8	10
27	Theoretical investigation of antiferromagnetic skyrmions in a triangular monolayer. <i>Journal of Physics Condensed Matter</i> , 2020, 32, 425801.	0.7	10
28	Equivalence of wave function matching and Green's functions methods for quantum transport: generalized Fisher-Lee relation. <i>Journal of Physics Condensed Matter</i> , 2020, 32, 355302.	0.7	5
29	Defect-implantation for the all-electrical detection of non-collinear spin-textures. <i>Nature Communications</i> , 2020, 11, 1602.	5.8	12
30	Impurity-dependent gyrotropic motion, deflection and pinning of current-driven ultrasmall skyrmions in PdFe/Ir(111) surface. <i>Journal of Physics Condensed Matter</i> , 2020, 32, 425802.	0.7	15
31	Spin-orbit torques and their associated effective fields from gigahertz to terahertz. <i>Communications Physics</i> , 2020, 3, .	2.0	4
32	Topological chiral magnetic interactions driven by emergent orbital magnetism. <i>Nature Communications</i> , 2020, 11, 5111.	5.8	104
33	Multiple-scattering approach for multi-spin chiral magnetic interactions: application to the one- and two-dimensional Rashba electron gas. <i>New Journal of Physics</i> , 2020, 22, 103003.	1.2	14
34	Modeling spin waves in noncollinear antiferromagnets: Spin-flop states, spin spirals, skyrmions, and antiskyrmions. <i>Physical Review B</i> , 2020, 102, .	1.1	17
35	Spin, atomic, and interatomic orbital magnetism induced by nanostructures deposited on transition metal surfaces. <i>Physical Review Materials</i> , 2020, 4, .	0.9	1
36	Prospecting chiral multisite interactions in prototypical magnetic systems. <i>Physical Review Research</i> , 2020, 2, .	1.3	25

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37	Zero-point magnetic exchange interactions. <i>Physical Review Research</i> , 2020, 2, .	1.3	4
38	The chiral biquadratic pair interaction. <i>New Journal of Physics</i> , 2019, 21, 083015.	1.2	52
39	Dependence of the magnetic interactions in MoS <sub>2</sub> monolayer on Mn-doping configurations. <i>Journal of Physics Condensed Matter</i> , 2019, 31, 465802.	0.7	5
40	Complex magnetism of B20-MnGe: from spin-spirals, hedgehogs to monopoles. <i>Journal of Physics Condensed Matter</i> , 2019, 31, 485801.	0.7	12
41	Magnetism and in-gap states of 3d transition metal atoms on superconducting Re. <i>Npj Quantum Materials</i> , 2019, 4, .	1.8	29
42	Comparative study of methodologies to compute the intrinsic Gilbert damping: interrelations, validity and physical consequences. <i>Journal of Physics Condensed Matter</i> , 2019, 31, 255802.	0.7	9
43	Unoccupied surface and interface states in Pd thin films deposited on Fe/Ir(111) surface. <i>New Journal of Physics</i> , 2019, 21, 063015.	1.2	4
44	Stabilizing spin systems via symmetrically tailored RKKY interactions. <i>Nature Communications</i> , 2019, 10, 2565.	5.8	24
45	Electron-phonon dynamics in 2D carbon based-hybrids XC (X=O, S, Si, Ge, Sn). <i>Journal of Physics Condensed Matter</i> , 2019, 31, 135702.	0.7	17
46	Impact of single atomic defects and vacancies on the magnetic anisotropy energy of CoPt thin films. <i>Journal of Physics Condensed Matter</i> , 2019, 31, 435803.	0.7	0
47	Spin dynamics of 3d and 4d impurities embedded in prototypical topological insulators. <i>Physical Review Materials</i> , 2019, 3, .	0.9	4
48	Spin-resolved inelastic electron scattering by spin waves in noncollinear magnets. <i>Physical Review B</i> , 2018, 97, .	1.1	31
49	Nondegenerate valleys in the half-metallic ferromagnet Fe/WS <sub>2</sub> . <i>Physical Review B</i> , 2018, 97, .	1.1	2
50	Interatomic orbital magnetism: The case of 3d adatoms deposited on the Pt(111) surface. <i>Physical Review B</i> , 2018, 98, .	1.1	4
51	Anatomy of magnetic anisotropy induced by Rashba spin-orbit interactions. <i>Physical Review B</i> , 2018, 98, .	1.1	4
52	Impurity-induced orbital magnetization in a Rashba electron gas. <i>Physical Review B</i> , 2018, 98, .	1.1	4
53	Universality of defect-skyrmion interaction profiles. <i>Nature Communications</i> , 2018, 9, 4395.	5.8	53
54	Spin-fluctuation and spin-relaxation effects of single adatoms from first principles. <i>Journal of Physics Condensed Matter</i> , 2018, 30, 343002.	0.7	5

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55	Ab initio investigation of impurity-induced in-gap states in Bi <sub>2</sub> Te <sub>3</sub> and Bi <sub>2</sub> Se <sub>3</sub> . Physical Review B, 2018, 98, .	1.1	7
56	Chiral magnetism of magnetic adatoms generated by Rashba electrons. New Journal of Physics, 2017, 19, 023010.	1.2	18
57	Engineering elliptical spin-excitations by complex anisotropy fields in Fe adatoms and dimers on Cu(111). Physical Review B, 2017, 96, .	1.1	5
58	A gateway towards non-collinear spin processing using three-atom magnets with strong substrate coupling. Nature Communications, 2017, 8, 642.	5.8	25
59	First-principles investigation of spin-wave dispersions in surface-reconstructed Co thin films on W(110). Physical Review B, 2017, 95, .	1.1	8
60	Halogenation of SiC for band-gap engineering and excitonic functionalization. Journal of Physics Condensed Matter, 2017, 29, 455001.	0.7	8
61	Dynamical amplification of magnetoresistances and Hall currents up to the THz regime. Scientific Reports, 2017, 7, 3686.	1.6	11
62	Tuning Paramagnetic Spin Excitations of Single Adatoms. Physical Review Letters, 2017, 119, 017203.	2.9	10
63	Longitudinal and transverse spin relaxation times of magnetic single adatoms: An <i>ab initio</i> analysis. Physical Review B, 2017, 96, .	1.1	12
64	Insights into the orbital magnetism of noncollinear magnetic systems. , 2017, , .		4
65	Chirality-driven orbital magnetic moments as a new probe for topological magnetic structures. Nature Communications, 2016, 7, 13613.	5.8	45
66	Microscopic theory of the residual surface resistivity of Rashba electrons. Physical Review B, 2016, 94, .	1.1	5
67	RKKY-like contributions to the magnetic anisotropy energy: 3d adatoms on Pt(111) surface. Physical Review B, 2016, 94, .	1.1	5
68	Observing spin excitations in 3d adatoms on Pt(111) with inelastic scanning tunneling spectroscopy: A first-principles perspective. Physical Review B, 2016, 93, .	1.1	8
69	Strong correlation effects in theoretical STM studies of magnetic adatoms. Physical Review B, 2016, 93, .	1.1	17
70	Tailoring the chiral magnetic interaction between two individual atoms. Nature Communications, 2016, 7, 10620.	5.8	66
71	Giant perpendicular magnetic anisotropy energies in CoPt thin films: impact of reduced dimensionality and imperfections. Journal of Physics Condensed Matter, 2016, 28, 496002.	0.7	3
72	Zero-Point Spin-Fluctuations of Single Adatoms. Nano Letters, 2016, 16, 4305-4311.	4.5	21

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73	Absence of a spin-signature from a single Ho adatom as probed by spin-sensitive tunneling. Nature Communications, 2016, 7, 10454.	5.8	49
74	Relativistic dynamical spin excitations of magnetic adatoms. Physical Review B, 2015, 91, .	1.1	35
75	Dynamical current-induced ferromagnetic and antiferromagnetic resonances. Physical Review B, 2015, 92, .	1.1	11
76	Transverse dynamical magnetic susceptibilities from regular static density functional theory: Evaluation of damping and $g$ -shifts of spin excitations. Physical Review B, 2015, 91, .	1.1	34
77	Brain palpation from physiological vibrations using MRI. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12917-12921.	3.3	48
78	Perpendicular reading of single confined magnetic skyrmions. Nature Communications, 2015, 6, 8541.	5.8	92
79	Quantum well states and amplified spin-dependent Friedel oscillations in thin films. Nature Communications, 2014, 5, 5558.	5.8	24
80	Interplay between the Kondo effect and the Ruderman-Kittel-Kasuya-Yosida interaction. Nature Communications, 2014, 5, 5417.	5.8	55
81	Theoretical probing of inelastic spin-excitations in adatoms on surfaces. Surface Science, 2014, 630, 317-324.	0.8	9
82	Renormalization of electron self-energies via their interaction with spin excitations: A first-principles investigation. Physical Review B, 2014, 89, .	1.1	26
83	Non-collinear magnetism induced by frustration in transition-metal nanostructures deposited on surfaces. Journal of Physics Condensed Matter, 2014, 26, 273201.	0.7	14
84	Current-Driven Spin Dynamics of Artificially Constructed Quantum Magnets. Science, 2013, 339, 55-59.	6.0	197
85	Parity Effect in the Ground state Localization of Antiferromagnetic Chains Coupled to a Ferromagnet. Physical Review Letters, 2013, 110, 157206.	2.9	31
86	Design of magnetic textures of nanocorrals with an extra adatom. Physical Review B, 2013, 88, .	1.1	10
87	Spin Excitations of Individual Fe Atoms on Pt(111): Impact of the Site-Dependent Giant Substrate Polarization. Physical Review Letters, 2013, 111, 157204.	2.9	87
88	Magnetic Adatom Induced Skyrmion-Like Spin Texture in Surface Electron Waves. Physical Review Letters, 2012, 108, 207202.	2.9	28
89	Lifetime reduction of surface states at Cu, Ag, and Au(111) caused by impurity scattering. Physical Review B, 2012, 86, .	1.1	10
90	Atom-by-atom engineering and magnetometry of tailored nanomagnets. Nature Physics, 2012, 8, 497-503.	6.5	201

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91	Itinerant Nature of Atom-Magnetization Excitation by Tunneling Electrons. Physical Review Letters, 2011, 106, 037205.	2.9	135
92	Theory of local dynamical magnetic susceptibilities from the Korringa-Kohn-Rostoker Green function method. Physical Review B, 2011, 83, .	1.1	52
93	Self-Assembled Nanometer-Scale Magnetic Networks on Surfaces: Fundamental Interactions and Functional Properties. Advanced Functional Materials, 2011, 21, 1212-1228.	7.8	48
94	Thermally activated magnetization reversal in monatomic magnetic chains on surfaces studied by classical atomistic spin-dynamics simulations. Journal of Physics Condensed Matter, 2011, 23, 394204.	0.7	14
95	Anomalously large $g$ factor of single atoms adsorbed on a metal substrate. Physical Review B, 2011, 84, .	1.1	26
96	Spin polarization of platinum (111) induced by the proximity to cobalt nanostripes. Physical Review B, 2011, 83, .	1.1	22
97	Theory of real space imaging of Fermi surface parts. Physical Review B, 2011, 83, .	1.1	36
98	Exchange coupling in transition-metal nanoclusters on Cu(001) and Cu(111) surfaces. Physica Status Solidi (B): Basic Research, 2010, 247, 1187-1196.	0.7	25
99	Strength and directionality of surface Ruderman-Kittel-Kasuya-Yosida interaction mapped on the atomic scale. Nature Physics, 2010, 6, 187-191.	6.5	207
100	Spin-orbit coupling and spin waves in ultrathin ferromagnets: The spin-wave Rashba effect. Physical Review B, 2010, 82, .	1.1	74
101	Mapping the magnetic exchange interactions from first principles: Anisotropy anomaly and application to Fe, Ni, and Co. Physical Review B, 2010, 82, .	1.1	35
102	Dynamical Magnetic Excitations of Nanostructures from First Principles. Physical Review Letters, 2010, 105, 187205.	2.9	50
103	Seeing the Fermi Surface in Real Space by Nanoscale Electron Focusing. Science, 2009, 323, 1190-1193.	6.0	96
104	Magnetism of Nanowires Driven by Novel Even-Odd Effects. Physical Review Letters, 2008, 101, 107204.	2.9	59
105	Non-collinear magnetism of Cr nanostructures on Fe 3ML /Cu(001): First principles and experimental investigations. Europhysics Letters, 2008, 81, 47004.	0.7	16
106	Noncollinear magnetism of Cr and Mn nanoclusters on Ni(111): Changing the magnetic configuration atom by atom. Physical Review B, 2007, 75, .	1.1	26
107	Fe clusters on Ni and Cu: size and shape dependence of the spin moment. Applied Physics A: Materials Science and Processing, 2006, 82, 103-107.	1.1	31
108	Surface-state scattering by adatoms on noble metals: Ab initio calculations using the Korringa-Kohn-Rostoker Green function method. Physical Review B, 2006, 73, .	1.1	26

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109	Noncollinear Korringa-Kohn-Rostoker Green function method: Application to 3D nanostructures on Ni(001). <i>Physical Review B</i> , 2005, 72, .	1.1	43
110	Antiferromagnetic polarization at Mn/V(001) interfaces. <i>Physical Review B</i> , 2004, 69, .	1.1	4
111	Ferromagnetic stabilization of ordered B <sub>2</sub> FeRh thin films. <i>Physical Review B</i> , 2003, 67, .	1.1	34
112	Ab initio study of the magnetic configurations on the (001) surfaces of binary FePd and FeRh ordered alloys. <i>Journal of Magnetism and Magnetic Materials</i> , 2002, 240, 368-370.	1.0	3
113	Ab initio study of the origin of the dead magnetic Ni layers at the Ni/Pt() interface. <i>Surface Science</i> , 2002, 518, 57-62.	0.8	3
114	Scanning Tunneling Spectroscopy of Subsurface Ag and Ge Impurities in Copper. <i>New Journal of Physics</i> , 0, , .	1.2	2