Ermin Malic

List of Publications by Citations

81 papers	3,855 citations	31 h-index	61 g-index
93 ext. papers	5,026 ext. citations	8 avg, IF	5.97 L-index

#	Paper	IF	Citations
81	Intrinsic homogeneous linewidth and broadening mechanisms of excitons in monolayer transition metal dichalcogenides. *Nature Communications*, **2015**, 6, 8315	17.4	309
80	Exciton physics and device application of two-dimensional transition metal dichalcogenide semiconductors. *Npj 2D Materials and Applications*, **2018**, 2,	8.8	267
79	Carrier multiplication in graphene. *Nano Letters*, **2010**, 10, 4839-43	11.5	256
78	Excitonic linewidth and coherence lifetime in monolayer transition metal dichalcogenides. *Nature Communications*, **2016**, 7, 13279	17.4	248
77	Carrier relaxation in epitaxial graphene photoexcited near the Dirac point. *Physical Review Letters*, **2011**, 107, 237401	7.4	220
76	Microscopic theory of absorption and ultrafast many-particle kinetics in graphene. *Physical Review B*, **2011**, 84,	3.3	210
75	Analytical approach to excitonic properties of MoS2. *Physical Review B*, **2014**, 89,	3.3	154
74	Trion formation dynamics in monolayer transition metal dichalcogenides. *Physical Review B*, **2016**, 93,	3.3	127
73	Dielectric disorder in two-dimensional materials. *Nature Nanotechnology*, **2019**, 14, 832-837	28.7	125
72	Strain Control of Exciton-Phonon Coupling in Atomically Thin Semiconductors. *Nano Letters*, **2018**, 18, 1751-1757	11.5	121
71	Impact of Auger processes on carrier dynamics in graphene. *Physical Review B*, **2012**, 85,	3.3	110
70	Ultrafast Coulomb-Induced Intervalley Coupling in Atomically Thin WS2. *Nano Letters*, **2016**, 16, 2945-50	11.5	110
69	Phonon Sidebands in Monolayer Transition Metal Dichalcogenides. *Physical Review Letters*, **2017**, 119, 187402	7.4	100
68	Ultrafast transition between exciton phases in van der Waals heterostructures. *Nature Materials*, **2019**, 18, 691-696	27	96
67	Dark excitons in transition metal dichalcogenides. *Physical Review Materials*, **2018**, 2,	3.2	96
66	Dark and bright exciton formation, thermalization, and photoluminescence in monolayer transition metal dichalcogenides. *2D Materials*, **2018**, 5, 035017	5.9	89
65	**2013**,		74

64	Interlayer exciton dynamics in van der Waals heterostructures. *Communications Physics*, **2019**, 2,	5.4	55
63	Exciton Relaxation Cascade in two-dimensional Transition Metal Dichalcogenides. *Scientific Reports*, **2018**, 8, 8238	4.9	55
62	Phonon-Assisted Photoluminescence from Indirect Excitons in Monolayers of Transition-Metal Dichalcogenides. *Nano Letters*, **2020**, 20, 2849-2856	11.5	51
61	Proposal for dark exciton based chemical sensors. *Nature Communications*, **2017**, 8, 14776	17.4	47
60	Exciton diffusion in monolayer semiconductors with suppressed disorder. *Physical Review B*, **2020**, 101,	3.3	44
59	The role of momentum-dark excitons in the elementary optical response of bilayer WSe. *Nature Communications*, **2018**, 9, 2586	17.4	41
58	Impact of strain on the optical fingerprint of monolayer transition-metal dichalcogenides. *Physical Review B*, **2017**, 96,	3.3	41
57	Intrinsic lifetime of higher excitonic states in tungsten diselenide monolayers. *Nanoscale*, **2019**, 11, 12381-12387	7.7	40
56	Inverted valley polarization in optically excited transition metal dichalcogenides. *Nature Communications*, **2018**, 9, 971	17.4	38
55	Exciton Propagation and Halo Formation in Two-Dimensional Materials. *Nano Letters*, **2019**, 19, 7317-7323	11.5	37
54	Microscopic description of intraband absorption in graphene: the occurrence of transient negative differential transmission. *Physical Review Letters*, **2014**, 113, 035502	7.4	37
53	Mapping of the dark exciton landscape in transition metal dichalcogenides. *Physical Review B*, **2018**, 98,	3.3	33
52	Dielectric Engineering of Electronic Correlations in a van der Waals Heterostructure. *Nano Letters*, **2018**, 18, 1402-1409	11.5	32
51	Excitonic Rayleigh scattering spectra of metallic single-walled carbon nanotubes. *Physical Review B*, **2010**, 82,	3.3	31
50	Impact of strain on the excitonic linewidth in transition metal dichalcogenides. *2D Materials*, **2019**, 6, 015015	5.9	30
49	Twist-tailoring Coulomb correlations in van der Waals homobilayers. *Nature Communications*, **2020**, 11, 2167	17.4	27
48	Enhancement of Exciton-Phonon Scattering from Monolayer to Bilayer WS. *Nano Letters*, **2018**, 18, 6135-6143	11.5	27
47	Impact of doping on the carrier dynamics in graphene. *Scientific Reports*, **2015**, 5, 16841	4.9	26

46	Theory of exciton dynamics in time-resolved ARPES: Intra- and intervalley scattering in two-dimensional semiconductors. *Physical Review B*, **2019**, 100,	3.3	25
45	Towards a tunable graphene-based Landau level laser in the terahertz regime. *Scientific Reports*, **2015**, 5, 12646	4.9	25
44	Ultrafast carrier dynamics in Landau-quantized graphene. *Nanophotonics*, **2015**, 4, 224-249	6.3	24
43	Ultrafast dynamics in monolayer transition metal dichalcogenides: Interplay of dark excitons, phonons, and intervalley exchange. *Physical Review Research*, **2019**, 1,	3.9	24
42	Graphene as gain medium for broadband lasers. *Physical Review B*, **2015**, 92,	3.3	22
41	Hybridized intervalley moiré excitons and flat bands in twisted WSe bilayers. *Nanoscale*, **2020**, 12, 11088-11094	7.7	21
40	Carrier Dynamics in Graphene: Ultrafast Many-Particle Phenomena. *Annalen Der Physik*, **2017**, 529, 1700038	2.8	19
39	Tunable Phases of Moiré Excitons in van der Waals Heterostructures. *Nano Letters*, **2020**, 20, 8534-8540	11.5	18
38	Negative effective excitonic diffusion in monolayer transition metal dichalcogenides. *Nanoscale*, **2020**, 12, 356-363	7.7	16
37	The Art of Constructing Black Phosphorus Nanosheet Based Heterostructures: From 2D to 3D. *Advanced Materials*, **2021**, 33, e2005254	24	16
36	Ultrafast momentum imaging of pseudospin-flip excitations in graphene. *Physical Review B*, **2017**, 96,	3.3	14
35	Dark exciton based strain sensing in tungsten-based transition metal dichalcogenides. *Physical Review B*, **2019**, 99,	3.3	13
34	Direct measurement of key exciton properties: Energy, dynamics, and spatial distribution of the wave function. *Natural Sciences*, **2021**, 1, e10010		13
33	Review on carrier multiplication in graphene. *Physica Status Solidi (B): Basic Research*, **2016**, 253, 2303-2310	1.5	13
32	Exciton broadening and band renormalization due to Dexter-like intervalley coupling. *2D Materials*, **2018**, 5, 025011	5.9	12
31	Suppression of intervalley exchange coupling in the presence of momentum-dark states in transition metal dichalcogenides. *Physical Review Research*, **2020**, 2,	3.9	12
30	Strain-dependent exciton diffusion in transition metal dichalcogenides. *2D Materials*, **2021**, 8, 015030	5.9	11
29	Momentum-Resolved Observation of Exciton Formation Dynamics in Monolayer WS. *Nano Letters*, **2021**, 21, 5867-5873	11.5	11

28	Theory of optically induced FÖster coupling in van der Waals coupled heterostructures. *Physical Review B*, **2019**, 99,	3.3	11
27	Nonclassical Exciton Diffusion in Monolayer WSe_{2}. *Physical Review Letters*, **2021**, 127, 076801	7.4	11
26	Exciton-exciton interaction in transition metal dichalcogenide monolayers and van der Waals heterostructures. *Physical Review B*, **2021**, 103,	3.3	11
25	Microscopic modeling of tunable graphene-based terahertz Landau-level lasers. *Physical Review B*, **2017**, 96,	3.3	9
24	Symmetry-Breaking Supercollisions in Landau-Quantized Graphene. *Physical Review Letters*, **2017**, 119, 067405	7.4	9
23	Temporal Evolution of Low-Temperature Phonon Sidebands in Transition Metal Dichalcogenides. *ACS Photonics*, **2020**, 7, 2756-2764	6.3	9
22	Experimentally accessible signatures of Auger scattering in graphene. *Physical Review B*, **2016**, 94,	3.3	9
21	Microscopic Picture of Electron-Phonon Interaction in Two-Dimensional Halide Perovskites. *Journal of Physical Chemistry Letters*, **2020**, 11, 9975-9982	6.4	8
20	Spatio-temporal dynamics in graphene. *Nanoscale*, **2019**, 11, 10017-10022	7.7	7
19	Brightening of spin- and momentum-dark excitons in transition metal dichalcogenides. *2D Materials* , **2021**, 8, 015013	5.9	6
18	Microscopic understanding of the photoconduction effect in graphene. *Physical Review B*, **2017**, 96,	3.3	4
17	Recombination channels in optically excited graphene. *Physica Status Solidi (B): Basic Research*, **2015** , 252, 2456-2460	1.3	4
16	Molecule signatures in photoluminescence spectra of transition metal dichalcogenides. *Physical Review Materials*, **2018**, 2,	3.2	4
15	Microscopic Understanding of Ultrafast Charge Transfer in van der Waals Heterostructures.. *Physical Review Letters*, **2021**, 127, 276401	7.4	4
14	Electrically pumped graphene-based Landau-level laser. *Physical Review Materials*, **2018**, 2,	3.2	3
13	Criteria for deterministic single-photon emission in two-dimensional atomic crystals. *Physical Review Materials*, **2020**, 4,	3.2	3
12	Dark exciton-exciton annihilation in monolayer WSe2. *Physical Review B*, **2021**, 104,	3.3	3
11	Unconventional double-bended saturation of carrier occupation in optically excited graphene due to many-particle interactions. *Nature Communications*, **2017**, 8, 15042	17.4	2

10	Optical Response From Functionalized Atomically Thin Nanomaterials. *Annalen Der Physik*, **2017**, 529, 1700097	2.6	2
9	Phonon-Assisted Intervalley Scattering Determines Ultrafast Exciton Dynamics in MoSe_{2} Bilayers. *Physical Review Letters*, **2021**, 127, 157403	7.4	2
8	Phonon-assisted exciton dissociation in transition metal dichalcogenides. *Nanoscale*, **2021**, 13, 1884-1892	7.7	2
7	Dark exciton anti-funneling in atomically thin semiconductors. *Nature Communications*, **2021**, 12, 7221	17.4	2
6	Valley-exchange coupling probed by angle-resolved photoluminescence. *Nanoscale Horizons*, **2021**,	10.8	1
5	Disorder-induced broadening of excitonic resonances in transition metal dichalcogenides. *Physical Review Materials*, **2019**, 3,	3.2	1
4	Proximity control of interlayer exciton-phonon hybridization in van der Waals heterostructures. *Nature Communications*, **2021**, 12, 1719	17.4	1
3	Black Phosphorus: The Art of Constructing Black Phosphorus Nanosheet Based Heterostructures: From 2D to 3D (Adv. Mater. 3/2021). *Advanced Materials*, **2021**, 33, 2170020	24	1
2	Microscopic Modeling of Pump–Probe Spectroscopy and Population Inversion in Transition Metal Dichalcogenides. *Physica Status Solidi (B): Basic Research*, **2020**, 257, 2000223	1.3	0
1	Microscopic View on the Ultrafast Carrier Dynamics in Graphene **2017**, 135-182		