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1896	Valleytronics: Electrons dance in diamond. 2013 , 12, 690-1		47
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1894	Epitaxial monolayer MoS ₂ on mica with novel photoluminescence. 2013 , 13, 3870-7		456
1893	Large current modulation and spin-dependent tunneling of vertical graphene/MoS ₂ heterostructures. 2013 , 7, 7021-7		80
1892	Van der Waals epitaxial growth of MoS ₂ on SiO ₂ /Si by chemical vapor deposition. 2013 , 3, 17287		39
1891	Layer-by-layer thinning of MoS ₂ by thermal annealing. 2013 , 5, 8904-8		98

1890	Growth of aligned MoS ₆ nanowires on Cu(111). 2013 , 611, 1-4	16
1889	Effective lattice Hamiltonian for monolayer MoS ₂ : Tailoring electronic structure with perpendicular electric and magnetic fields. 2013 , 88,	165
1888	Mobility engineering and a metal-insulator transition in monolayer MoS ₂ 2013 , 12, 815-20	1265
1887	Optical generation of excitonic valley coherence in monolayer WSe ₂ . 2013 , 8, 634-8	1001
1886	Monolayer semiconducting transition metal dichalcogenide alloys: Stability and band bowing. 2013 , 113, 143703	175
1885	Spin valleytronics in silicene: Quantum spin Hall-quantum anomalous Hall insulators and single-valley semimetals. 2013 , 87,	207
1884	Local strain engineering in atomically thin MoS ₂ . 2013 , 13, 5361-6	802
1883	Impact of electron-phonon interaction on dynamic conductivity of gapped Dirac fermions: Application to single layer MoS ₂ . 2013 , 421, 97-104	20
1882	Magnetic control of the valley degree of freedom of massive Dirac fermions with application to transition metal dichalcogenides. 2013 , 88,	87
1881	Tunable Rashba effect in two-dimensional LaOBiS ₂ films: ultrathin candidates for spin field effect transistors. 2013 , 13, 5264-70	73
1880	Long-range ferromagnetic ordering in manganese-doped two-dimensional dichalcogenides. 2013 , 88,	234
1879	Origin of indirect optical transitions in few-layer MoS ₂ , WS ₂ , and WSe ₂ . 2013 , 13, 5627-34	365
1878	Circular dichroism and superdiffusive transport at the surface of BiTeI. 2013 , 111, 126603	10
1877	Effect of sulphur vacancy on geometric and electronic structure of MoS ₂ induced by molecular hydrogen treatment at room temperature. 2013 , 3, 18424	40
1876	Optical and Vibrational Studies of Partially Edge-Terminated Vertically Aligned Nanocrystalline MoS ₂ Thin Films. 2013 , 117, 26262-26268	49
1875	Valley carrier dynamics in monolayer molybdenum disulfide from helicity-resolved ultrafast pump-probe spectroscopy. 2013 , 7, 11087-93	188
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1873	Optical spectrum of MoS ₂ : many-body effects and diversity of exciton states. 2013 , 111, 216805	1031

1872	Quasiparticle band-edge energy and band offsets of monolayer of molybdenum and tungsten chalcogenides. 2013 , 103, 042106	119
1871	Intrinsic electrical transport properties of monolayer silicene and MoS ₂ from first principles. 2013 , 87,	303
1870	Three-band tight-binding model for monolayers of group-VIB transition metal dichalcogenides. 2013 , 88,	526
1869	Band-like transport in high mobility unencapsulated single-layer MoS ₂ transistors. 2013 , 102, 173107	316
1868	Lattice dynamics in mono- and few-layer sheets of WS ₂ and WSe ₂ . 2013 , 5, 9677-83	574
1867	Optoelectronic properties of single-layer, double-layer, and bulk tin sulfide: A theoretical study. 2013 , 113, 233507	107
1866	Indirect exchange interaction between magnetic adatoms in monolayer MoS ₂ . 2013 , 87,	38
1865	2D electronics: Graphene and beyond. 2013 ,	15
1864	Spin Hall effect in spin-valley coupled monolayers of transition metal dichalcogenides. 2013 , 88,	53
1863	Tightly bound trions in monolayer MoS ₂ . 2013 , 12, 207-11	1878
1862	Evolution of electronic structure in atomically thin sheets of WS ₂ and WSe ₂ . 2013 , 7, 791-7	1393
1861	Electrical tuning of valley magnetic moment through symmetry control in bilayer MoS ₂ . 2013 , 9, 149-153	451
1860	Single Dirac-cone state and quantum Hall effects in a honeycomb structure. 2013 , 104, 27006	10
1859	Monolayer MoS ₂ : Trigonal warping, the Γ -valley, and spin-orbit coupling effects. 2013 , 88,	310
1858	Optical manipulation of the exciton charge state in single-layer tungsten disulfide. 2013 , 88,	152
1857	High spin-Chern insulators with magnetic order. 2013 , 3, 3435	9
1856	Interlayer breathing and shear modes in few-trilayer MoS ₂ and WSe ₂ . 2013 , 13, 1007-15	502
1855	Vapor-solid growth of high optical quality MoS ₂ monolayers with near-unity valley polarization. 2013 , 7, 2768-72	340

1854	Synthesis and transfer of single-layer transition metal disulfides on diverse surfaces. 2013 , 13, 1852-7	524
1853	The chemistry of two-dimensional layered transition metal dichalcogenide nanosheets. 2013 , 5, 263-75	6689
1852	Raman spectroscopy of shear and layer breathing modes in multilayer MoS ₂ . 2013 , 87,	343
1851	High-Concentration Aqueous Dispersions of MoS ₂ . 2013 , 23, 3577-3583	244
1850	Solvatochromic effect on the photoluminescence of MoS ₂ monolayers. 2013 , 9, 1312-5	113
1849	Progress, challenges, and opportunities in two-dimensional materials beyond graphene. 2013 , 7, 2898-926	3414
1848	Preparation, characterization and photoelectrochemical property of ultrathin MoS ₂ nanosheets via hydrothermal intercalation and exfoliation route. 2013 , 571, 37-42	72
1847	Layer-by-layer thinning of MoS ₂ by plasma. 2013 , 7, 4202-9	317
1846	Temperature-Dependent Raman Studies and Thermal Conductivity of Few-Layer MoS ₂ . 2013 , 117, 9042-9047	487
1845	Electrical control of neutral and charged excitons in a monolayer semiconductor. <i>Nature Communications</i> , 2013 , 4, 1474	17.4 1007
1844	Intervalley scattering and localization behaviors of spin-valley coupled Dirac fermions. 2013 , 110, 016806	112
1843	Electronic properties of the MoS ₂ -WS ₂ heterojunction. 2013 , 87,	378
1842	High mobility and high on/off ratio field-effect transistors based on chemical vapor deposited single-crystal MoS ₂ grains. 2013 , 102, 142106	189
1841	Graphene-analogous low-dimensional materials. 2013 , 58, 1244-1315	600
1840	First-principles analysis of MoS ₂ /Ti ₂ C and MoS ₂ /Ti ₂ CY ₂ (Y=F and OH) all-2D semiconductor/metal contacts. 2013 , 87,	133
1839	Experimental demonstration of continuous electronic structure tuning via strain in atomically thin MoS ₂ . 2013 , 13, 2931-6	675
1838	Optical signature of symmetry variations and spin-valley coupling in atomically thin tungsten dichalcogenides. 2013 , 3, 1608	659
1837	Facile growth of monolayer MoS ₂ film areas on SiO ₂ . 2013 , 86, 1	56

1836	Controlled scalable synthesis of uniform, high-quality monolayer and few-layer MoS ₂ films. 2013 , 3, 1866	651
1835	Probing symmetry properties of few-layer MoS ₂ and h-BN by optical second-harmonic generation. 2013 , 13, 3329-33	649
1834	Broad-range modulation of light emission in two-dimensional semiconductors by molecular physisorption gating. 2013 , 13, 2831-6	566
1833	Identification of individual and few layers of WS ₂ using Raman Spectroscopy. 2013 , 3,	911
1832	Magnetoelectric effects and valley-controlled spin quantum gates in transition metal dichalcogenide bilayers. <i>Nature Communications</i> , 2013 , 4, 2053	17.4 246
1831	Electric-field screening in atomically thin layers of MoS ₂ —the role of interlayer coupling. 2013 , 25, 899-903	122
1830	Formation of a stable p-n junction in a liquid-gated MoS ₂ ambipolar transistor. 2013 , 13, 3023-8	178
1829	Bonding Charge Density and Ultimate Strength of Monolayer Transition Metal Dichalcogenides. 2013 , 117, 15842-15848	100
1828	Two-dimensional crystals: managing light for optoelectronics. 2013 , 7, 5660-5	327
1827	Valley-spin polarization in the magneto-optical response of silicene and other similar 2D crystals. 2013 , 110, 197402	160
1826	Single-layer MoS ₂ as an efficient photocatalyst. 2013 , 3, 2214	236
1825	Effects of lower symmetry and dimensionality on Raman spectra in two-dimensional WSe ₂ . 2013 , 88,	175
1824	Second harmonic microscopy of monolayer MoS ₂ . 2013 , 87,	423
1823	Giant valley drifts in uniaxially strained monolayer MoS ₂ . 2013 , 88,	41
1822	Spin- and valley-dependent magneto-optical properties of MoS ₂ . 2013 , 88,	78
1821	Spintronics in MoS ₂ monolayer quantum wires. 2013 , 88,	129
1820	Observation of intense second harmonic generation from MoS ₂ atomic crystals. 2013 , 87,	425
1819	Tight-binding model and direct-gap/indirect-gap transition in single-layer and multilayer MoS ₂ . 2013 , 88,	284

1818	Transport theory of monolayer transition-metal dichalcogenides through symmetry. 2013 , 111, 026601	167
1817	Synthesis and characterization of patronite form of vanadium sulfide on graphitic layer. 2013 , 135, 8720-5	235
1816	Spin-orbit-induced spin splittings in polar transition metal dichalcogenide monolayers. 2013 , 102, 57001	224
1815	Unconventional quantum Hall effect and tunable spin hall effect in Dirac materials: application to an isolated MoS2 trilayer. 2013 , 110, 066803	141
1814	Optical investigation of the natural electron doping in thin MoS2 films deposited on dielectric substrates. 2013 , 3, 3489	131
1813	Imaging the crystal structure of few-layer two-dimensional crystals by optical nonlinearity. 2013 ,	
1812	Berry phases of quantum trajectories of optically excited electron-hole pairs in semiconductors under strong terahertz fields. 2013 , 15, 115005	12
1811	Topological Invariants of Metals and the Related Physical Effects. 2013 , 30, 027101	93
1810	Conductivity of Dirac fermions with phonon-induced topological crossover. 2013 , 88,	14
1809	Spin memory and spin-lattice relaxation in two-dimensional hexagonal crystals. 2013 , 88,	27
1808	Large spin splitting in the conduction band of transition metal dichalcogenide monolayers. 2013 , 88,	254
1807	Strain tuning of optical emission energy and polarization in monolayer and bilayer MoS2. 2013 , 88,	285
1806	Topological Kirchhoff law and bulk-edge correspondence for valley Chern and spin-valley Chern numbers. 2013 , 88,	59
1805	Charge Dynamics and Electronic Structures of Monolayer MoS2 Films Grown by Chemical Vapor Deposition. 2013 , 6, 125801	60
1804	Phonon structure in dispersion curves and density of states of massive Dirac fermions. 2013 , 88,	15
1803	Acoustic phonon limited mobility in two-dimensional semiconductors: Deformation potential and piezoelectric scattering in monolayer MoS2 from first principles. 2013 , 87,	195
1802	Bandgap engineering of rippled MoS2 monolayer under external electric field. 2013 , 102, 173112	90
1801	Metallic behaviour in SOI quantum wells with strong intervalley scattering. 2013 , 3, 2011	3

1800	Controlled argon beam-induced desulfurization of monolayer molybdenum disulfide. 2013 , 25, 252201	58
1799	Coupling the valley degree of freedom to antiferromagnetic order. 2013 , 110, 3738-42	167
1798	Charge carrier dynamics in bulk MoS ₂ crystal studied by transient absorption microscopy. 2013 , 113, 133702	79
1797	Valley-polarized insulating states in zigzag silicene nanoribbons. 2014 , 1, 045009	12
1796	Spin-resolved optical conductivity of two-dimensional group-VIB transition-metal dichalcogenides. 2014 , 90,	29
1795	Terahertz Optical Conductance of n-type Monolayer MoS ₂ . 2014 , 153, 171-176	
1794	The electronic structure and optical properties of Mn and B, C, N co-doped MoS ₂ monolayers. 2014 , 9, 554	32
1793	Generation and transport of valley-polarized current in transition-metal dichalcogenides. 2014 , 90,	88
1792	Photoluminescence saturation and exciton decay dynamics in transition metal dichalcogenide monolayers. 2014 , 65, 2077-2081	14
1791	Momentum dependence of spin-orbit interaction effects in single-layer and multi-layer transition metal dichalcogenides. 2014 , 1, 034003	71
1790	Optical properties of monolayer transition metal dichalcogenides probed by spectroscopic ellipsometry. 2014 , 105, 201905	250
1789	Detrimental influence of catalyst seeding on the device properties of CVD-grown 2D layered materials: A case study on MoSe ₂ . 2014 , 105, 253102	19
1788	Excitons in atomically thin transition-metal dichalcogenides. 2014 ,	3
1787	Coherent Electronic Coupling in Transition Metal Dichalcogenide Monolayer. 2014 ,	
1786	Catalysts for Hydrogenations, Dehydrogenations and Metathesis. 2014 , 345-374	4
1785	Controlled growth of a line defect in graphene and implications for gate-tunable valley filtering. 2014 , 89,	96
1784	Indirect-direct band gap transition through electric tuning in bilayer MoS ₂ . 2014 , 140, 174707	32
1783	In-plane chiral tunneling and out-of-plane valley-polarized quantum tunneling in twisted graphene trilayer. 2014 , 90,	6

1782	Weakly damped acoustic plasmon mode in transition metal dichalcogenides with Zeeman splitting. 2014, 89,	4
1781	Reconfigurable p-n junction diodes and the photovoltaic effect in exfoliated MoS2 films. 2014, 104, 122104	47
1780	Exciton-dominant electroluminescence from a diode of monolayer MoS2. 2014, 104, 193508	72
1779	Stability of polarized states for diamond valleytronics. 2014, 104, 232105	13
1778	Excitons in a mirror: Formation of optical bilayers using MoS2 monolayers on gold substrates. 2014, 104, 191105	26
1777	Pure valley- and spin-entangled states in a MoS2-based bipolar transistor. 2014, 90,	11
1776	Electron spin relaxation due to D'yakonov-Perel' and Elliot-Yafet mechanisms in monolayer MoS2: Role of intravalley and intervalley processes. 2014, 89,	53
1775	Scalable synthesis of layer-controlled WS2 and MoS2 sheets by sulfurization of thin metal films. 2014, 105, 083112	94
1774	Effect of Coulomb interactions on optical properties of monolayer transition-metal dichalcogenides. 2014, 90,	28
1773	Ultrafast generation of pseudo-magnetic field for valley excitons in WSe2 monolayers. 2014, 346, 1205-8	192
1772	Transition-metal dichalcogenide bilayers: Switching materials for spintronic and valleytronic applications. 2014, 90,	85
1771	Vapor-transport growth of high optical quality WSe2 monolayers a. 2014, 2, 101101	48
1770	Photoluminescence properties and exciton dynamics in monolayer WSe2. 2014, 105, 101901	114
1769	Valley- and spin-switch effects in molybdenum disulfide superconducting spin valve. 2014, 90,	30
1768	Second-order resonant Raman scattering in single-layer tungsten disulfide WS2. 2014, 89,	49
1767	MoS2: A First-Principles Perspective. 2014, 103-128	3
1766	Two-dimensional material nanophotonics. 2014, 8, 899-907	1805
1765	Exciton dynamics in WSe2 bilayers. 2014, 105, 182105	40

1764	Measurement of the optical dielectric function of monolayer transition-metal dichalcogenides: MoS ₂ , MoSe ₂ , WS ₂ , and WSe ₂ . 2014 , 90,	739
1763	Tunable thermoelectricity in monolayers of MoS ₂ and other group-VI dichalcogenides. 2014 , 16, 115003	19
1762	Photoinduced quantum spin and valley Hall effects, and orbital magnetization in monolayer MoS ₂ . 2014 , 90,	36
1761	High intrinsic mobility and ultrafast carrier dynamics in multilayer metal-dichalcogenide MoS ₂ . 2014 , 90,	61
1760	Valley photothermoelectric effects in transition-metal dichalcogenides. 2014 , 90,	29
1759	Computational prediction and characterization of single-layer CrS ₂ . 2014 , 104, 022116	80
1758	Plasmonic pumping of excitonic photoluminescence in hybrid MoS ₂ -Au nanostructures. 2014 , 8, 12682-9	169
1757	Valley splitting and polarization by the Zeeman effect in monolayer MoSe ₂ . 2014 , 113, 266804	299
1756	Charge Transport Phenomena Unique to Diamond. 2014 , 1591, 1	0
1755	Intervalley coupling by quantum dot confinement potentials in monolayer transition metal dichalcogenides. 2014 , 16, 105011	49
1754	Ab Initio Study on MoS ₂ and Its Family: Chemical Trend, Band Alignment, Alloying, and Gap Modulation. 2014 , 77-101	1
1753	Mechanical Properties and Electric Field Screening of Atomically Thin MoS ₂ Crystals. 2014 , 129-153	
1752	Anomalously robust valley polarization and valley coherence in bilayer WS ₂ . 2014 , 111, 11606-11	189
1751	Spin transport in monolayer molybdenum disulfide (MoS ₂). 2014 , 13, 394-399	6
1750	Intrinsic optical conductivity of modified Dirac fermion systems. 2014 , 89,	32
1749	Growth of large-area 2D MoS ₂ (x) Se _{2x} semiconductor alloys. 2014 , 26, 2648-53, 2613	289
1748	Tailoring the physical properties of molybdenum disulfide monolayers by control of interfacial chemistry. 2014 , 14, 1354-61	110
1747	Spin-layer locking effects in optical orientation of exciton spin in bilayer WSe ₂ . 2014 , 10, 130-134	243

1746	Mechanism of excitonic dephasing in layered InSe crystals. 2014 , 89,	22
1745	High responsivity and gate tunable graphene-MoS ₂ hybrid phototransistor. 2014 , 10, 2300-6	243
1744	Resonance Raman scattering in bulk 2H-MX ₂ (M = Mo, W; X = S, Se) and monolayer MoS ₂ . 2014 , 115, 053527	70
1743	Exciton diffusion in monolayer and bulk MoSe ₂ . 2014 , 6, 4915-9	79
1742	Light generation and harvesting in a van der Waals heterostructure. 2014 , 8, 3042-8	337
1741	Synthesis and Optical Properties of Large-Area Single-Crystalline 2D Semiconductor WS ₂ Monolayer from Chemical Vapor Deposition. 2014 , 2, 131-136	411
1740	Electrically switchable chiral light-emitting transistor. 2014 , 344, 725-8	570
1739	Spin and pseudospins in layered transition metal dichalcogenides. 2014 , 10, 343-350	1733
1738	Second harmonic generation from artificially stacked transition metal dichalcogenide twisted bilayers. 2014 , 8, 2951-8	294
1737	Edge nonlinear optics on a MoS ₂ atomic monolayer. 2014 , 344, 488-90	504
1736	Few-layer MoS ₂ : a promising layered semiconductor. 2014 , 8, 4074-99	962
1735	Fully valley- and spin-polarized magnetocapacitance in n-type monolayer MoS ₂ . 2014 , 7, 021201	6
1734	Intrinsic electron spin relaxation due to the D'yakonov-Perel' mechanism in monolayer MoS ₂ . 2014 , 378, 1336-1340	23
1733	Photovoltaic Heterojunctions of Fullerenes with MoS ₂ and WS ₂ Monolayers. 2014 , 5, 1445-9	114
1732	Transport discovery of emerging robust helical surface States in Z ₂ = 0 systems. 2014 , 112, 176601	19
1731	Electrically tunable excitonic light-emitting diodes based on monolayer WSe ₂ p-n junctions. 2014 , 9, 268-72	1202
1730	Large-area synthesis of monolayer and few-layer MoSe ₂ films on SiO ₂ substrates. 2014 , 14, 2419-25	312
1729	Coherent Electronic Coupling in Atomically Thin MoSe ₂ . 2014 , 112,	88

1728	Electronic structure of a quasi-freestanding MoS ₂ monolayer. 2014 , 14, 1312-6	110
1727	Many-body effects in valleytronics: direct measurement of valley lifetimes in single-layer MoS ₂ . 2014 , 14, 202-6	381
1726	Emerging device applications for semiconducting two-dimensional transition metal dichalcogenides. 2014 , 8, 1102-20	1909
1725	Andreev reflection in monolayer MoS ₂ . 2014 , 89,	23
1724	Direct observation of the transition from indirect to direct bandgap in atomically thin epitaxial MoSe ₂ . 2014 , 9, 111-5	943
1723	Structures and Phase Transition of a MoS ₂ Monolayer. 2014 , 118, 1515-1522	356
1722	High yield exfoliation of two-dimensional chalcogenides using sodium naphthalenide. <i>Nature Communications</i> , 2014 , 5, 2995	17.4 556
1721	Gate-voltage-controlled spin and valley polarization transport in a normal/ferromagnetic/normal MoS ₂ junction. 2014 , 6, 1759-64	37
1720	Electric control of spin in monolayer WSe ₂ field effect transistors. 2014 , 25, 435201	22
1719	Origin of the phase transition in lithiated molybdenum disulfide. 2014 , 8, 11447-53	98
1718	Three-dimensional spirals of atomic layered MoS ₂ . 2014 , 14, 6418-23	136
1717	Gate-controlled supercurrent reversal in MoS ₂ -based Josephson junctions. 2014 , 108, 37002	10
1716	Molybdenum disulfide (MoS ₂) nanoflakes as inherently electroactive labels for DNA hybridization detection. 2014 , 6, 11971-5	90
1715	Metal seed layer thickness-induced transition from vertical to horizontal growth of MoS ₂ and WS ₂ . 2014 , 14, 6842-9	208
1714	Electronic structure, optical properties, and lattice dynamics in atomically thin indium selenide flakes. 2014 , 7, 1556-1568	132
1713	Topological origin of quasi-flat edge band in phosphorene. 2014 , 16, 115004	134
1712	Spin and Pseudospins in Transition Metal Dichalcogenides. 2014 ,	
1711	Facile synthesis of exfoliated Co-Al LDH-carbon nanotube composites with high performance as supercapacitor electrodes. 2014 , 16, 17936-42	78

1710	Exciton valley dynamics probed by Kerr rotation in WSe ₂ monolayers. 2014 , 90,	207
1709	Spin polarization driven by a charge-density wave in monolayer 1T-TaS ₂ . 2014 , 90,	24
1708	Spin-Orbit Coupling, Quantum Dots, and Qubits in Monolayer Transition Metal Dichalcogenides. 2014 , 4,	183
1707	Electron spin diffusion in monolayer MoS ₂ . 2014 , 89,	13
1706	Nonlinear photoluminescence in atomically thin layered WSe ₂ arising from diffusion-assisted exciton-exciton annihilation. 2014 , 90,	168
1705	Chemically driven tunable light emission of charged and neutral excitons in monolayer WS ₂ . 2014 , 8, 11320-9	188
1704	Dynamic stability of the single-layer transition metal dichalcogenides. 2014 , 92, 206-212	16
1703	Enhanced absorption of monolayer MoS ₂ with resonant back reflector. 2014 , 115, 193511	92
1702	Control of two-dimensional excitonic light emission via photonic crystal. 2014 , 1, 011001	124
1701	Photocarrier relaxation pathway in two-dimensional semiconducting transition metal dichalcogenides. <i>Nature Communications</i> , 2014 , 5, 4543	17.4 294
1700	Chiral d-wave superconductivity in doped graphene. 2014 , 26, 423201	77
1699	Third-harmonic generation in ultrathin films of MoS ₂ . 2014 , 6, 314-8	137
1698	Enhanced sodium-ion battery performance by structural phase transition from two-dimensional hexagonal-SnS ₂ to orthorhombic-SnS. 2014 , 8, 8323-33	534
1697	Valley- and spin-filter in monolayer MoS ₂ . 2014 , 199, 52-55	13
1696	Valley and spin dynamics in MoSe ₂ two-dimensional crystals. 2014 , 6, 12690-5	54
1695	Probing excitonic dark states in single-layer tungsten disulphide. 2014 , 513, 214-8	672
1694	Valley dynamics probed through charged and neutral exciton emission in monolayer WSe ₂ . 2014 , 90,	264
1693	Trion-induced negative photoconductivity in monolayer MoS ₂ . 2014 , 113, 166801	180

1692	Carrier and polarization dynamics in monolayer MoS ₂ . 2014 , 112, 047401	273
1691	Theory of optical excitation spectra and depolarization dynamics in bilayer WS ₂ from the viewpoint of excimers. 2014 , 90,	8
1690	Extraordinary attributes of 2-dimensional MoS ₂ nanosheets. 2014 , 609, 172-183	117
1689	Ultrafast carrier thermalization and cooling dynamics in few-layer MoS ₂ . 2014 , 8, 10931-40	192
1688	Electronic properties of single-layer and multilayer transition metal dichalcogenides MX ₂ (M = Mo, W and X = S, Se). 2014 , 526, 347-357	143
1687	Surface energy engineering for tunable wettability through controlled synthesis of MoS ₂ . 2014 , 14, 4314-21	210
1686	Valley-dependent spin polarization in bulk MoS ₂ with broken inversion symmetry. 2014 , 9, 611-7	306
1685	Spin and valley noise in two-dimensional Dirac materials. 2014 , 113, 046602	15
1684	Density-functional tight-binding simulations of curvature-controlled layer decoupling and band-gap tuning in bilayer MoS ₂ . 2014 , 112, 186802	32
1683	Observation of rapid exciton-exciton annihilation in monolayer molybdenum disulfide. 2014 , 14, 5625-9	358
1682	Valley and band structure engineering of folded MoS ₂ bilayers. 2014 , 9, 825-9	219
1681	Effect of doping and strain modulations on electron transport in monolayer MoS ₂ . 2014 , 90,	49
1680	Valley depolarization due to intervalley and intravalley electron-hole exchange interactions in monolayer MoS ₂ . 2014 , 89,	179
1679	Valleytronics on the surface of a topological crystalline insulator: Elliptic dichroism and valley-selective optical pumping. 2014 , 89,	31
1678	Electrically tunable conductance and edge modes in topological crystalline insulator thin films: minimal tight-binding model analysis. 2014 , 16, 065015	34
1677	Dense network of one-dimensional midgap metallic modes in monolayer MoSe ₂ and their spatial undulations. 2014 , 113, 066105	135
1676	Exciton binding energy and nonhydrogenic Rydberg series in monolayer WS ₂ . 2014 , 113, 076802	1358
1675	Exciton valley relaxation in a single layer of WS ₂ measured by ultrafast spectroscopy. 2014 , 90,	102

1674	2D materials: valley currents controlled by light. 2014 , 9, 752-3		7
1673	Nonlinear valley and spin currents from Fermi pocket anisotropy in 2D crystals. 2014 , 113, 156603		64
1672	Group theory analysis of phonons in two-dimensional transition metal dichalcogenides. 2014 , 90,		130
1671	Giant bandgap renormalization and excitonic effects in a monolayer transition metal dichalcogenide semiconductor. 2014 , 13, 1091-5		1150
1670	Atomically thin p-n junctions with van der Waals heterointerfaces. 2014 , 9, 676-81		1598
1669	Evolution of interlayer coupling in twisted molybdenum disulfide bilayers. <i>Nature Communications</i> , 2014 , 5, 4966	17.4	410
1668	Generation and electric control of spin-valley-coupled circular photogalvanic current in WSe ₂ . 2014 , 9, 851-7		216
1667	Electroluminescence and photocurrent generation from atomically sharp WSe ₂ /MoS ₂ heterojunction p-n diodes. 2014 , 14, 5590-7		782
1666	Ambipolar molybdenum diselenide field-effect transistors: field-effect and Hall mobilities. 2014 , 8, 7923-9		108
1665	Mesoscale imperfections in MoS ₂ atomic layers grown by a vapor transport technique. 2014 , 14, 4682-6		63
1664	Tightly bound excitons in monolayer WSe(2). 2014 , 113, 026803		762
1663	Spin susceptibility of two-dimensional transition-metal dichalcogenides. 2014 , 90,		15
1662	Spin-orbit-coupled quantum wires and Majorana fermions on zigzag edges of monolayer transition-metal dichalcogenides. 2014 , 89,		54
1661	A direct comparison of CVD-grown and exfoliated MoS ₂ using optical spectroscopy. 2014 , 29, 064008		77
1660	Postgrowth tuning of the bandgap of single-layer molybdenum disulfide films by sulfur/selenium exchange. 2014 , 8, 4672-7		88
1659	Flexible and stretchable thin-film transistors based on molybdenum disulphide. 2014 , 16, 14996-5006		50
1658	Temperature effect on optical spectra of monolayer molybdenum disulfide. 2014 , 104, 193110		41
1657	Stability and electronic structures of native defects in single-layer MoS ₂ . 2014 , 89,		211

1656	Theory of excitonic second-harmonic generation in monolayer MoS ₂ . 2014 , 89,	96
1655	Mono- and bilayer WS ₂ light-emitting transistors. 2014 , 14, 2019-25	351
1654	Antibacterial activity of two-dimensional MoS ₂ sheets. 2014 , 6, 10126-33	221
1653	Tuning and identification of interband transitions in monolayer and bilayer molybdenum disulfide using hydrostatic pressure. 2014 , 8, 7458-64	58
1652	Electrical transport properties of polycrystalline monolayer molybdenum disulfide. 2014 , 8, 7930-7	96
1651	Extraordinary photoluminescence and strong temperature/angle-dependent Raman responses in few-layer phosphorene. 2014 , 8, 9590-6	529
1650	Effects of van der Waals interaction and electric field on the electronic structure of bilayer MoS ₂ . 2014 , 26, 405302	40
1649	Valley-splitting and valley-dependent inter-Landau-level optical transitions in monolayer MoS ₂ quantum Hall systems. 2014 , 90,	60
1648	Electronic and vibrational properties of defective transition metal dichalcogenide Haeckelites: new 2D semi-metallic systems. 2014 , 1, 011003	30
1647	Strain tuning of magnetism in Mn doped MoS ₂ monolayer. 2014 , 26, 256003	23
1646	Dirac cones and Dirac saddle points of bright excitons in monolayer transition metal dichalcogenides. <i>Nature Communications</i> , 2014 , 5, 3876	17.4 196
1645	Valleytronics. The valley Hall effect in MoS ₂ transistors. 2014 , 344, 1489-92	1153
1644	Exciton fine structure and spin decoherence in monolayers of transition metal dichalcogenides. 2014 , 89,	182
1643	Valley polarization in magnetically doped single-layer transition-metal dichalcogenides. 2014 , 89,	121
1642	Probing substrate-dependent long-range surface structure of single-layer and multilayer MoS ₂ by low-energy electron microscopy and microprobe diffraction. 2014 , 89,	15
1641	Analytical approach to excitonic properties of MoS ₂ . 2014 , 89,	154
1640	Exciton-exciton annihilation in MoSe ₂ monolayers. 2014 , 89,	246
1639	Large thermoelectricity via variable range hopping in chemical vapor deposition grown single-layer MoS ₂ . 2014 , 14, 2730-4	171

1638	Two-dimensional transition-metal dichalcogenide materials: Toward an age of atomic-scale photonics. 2015 , 40, 592-599	48
1637	Spin and valley dynamics of excitons in transition metal dichalcogenide monolayers. 2015 , 252, 2349-2362	85
1636	Two-Dimensional Valley Electrons and Excitons in Noncentrosymmetric 3R $\overline{1}$ MoS ₂ . 2015 , 4,	33
1635	Molecular beam epitaxy growth and scanning tunneling microscopy study of TiSe ₂ ultrathin films. 2015 , 91,	74
1634	Transport properties of WSe ₂ nanotube heterojunctions: A first-principles study. 2015 , 91,	10
1633	Electronic structure, spin-orbit coupling, and interlayer interaction in bulk MoS ₂ and WS ₂ . 2015 , 91,	92
1632	Valley relaxation in graphene due to charged impurities. 2015 , 92,	10
1631	TiS ₃ nanoribbons: Width-independent band gap and strain-tunable electronic properties. 2015 , 92,	51
1630	Valley precession in graphene superlattices. 2015 , 92,	26
1629	Quasiparticle band gaps, excitonic effects, and anisotropic optical properties of the monolayer distorted 1T diamond-chain structures ReS ₂ and ReSe ₂ . 2015 , 92,	103
1628	Giant and tunable valley degeneracy splitting in MoTe ₂ . 2015 , 92,	196
1627	Polarization analysis of excitons in monolayer and bilayer transition-metal dichalcogenides. 2015 , 92,	115
1626	Hole spin relaxation in bilayer WSe ₂ . 2015 , 92,	7
1625	Valley caloritronics and its realization by graphene nanoribbons. 2015 , 92,	31
1624	Binding energies and spatial structures of small carrier complexes in monolayer transition-metal dichalcogenides via diffusion Monte Carlo. 2015 , 92,	64
1623	Ab initio tight-binding Hamiltonian for transition metal dichalcogenides. 2015 , 92,	111
1622	Chiral phonons at high-symmetry points in monolayer hexagonal lattices. 2015 , 115, 115502	114
1621	Double resonant Raman scattering and valley coherence generation in monolayer WSe ₂ . 2015 , 115, 117401	52

1620	Electrical Tuning of Exciton Binding Energies in Monolayer WS ₂ . 2015 , 115, 126802	248
1619	Anomalous Light Cones and Valley Optical Selection Rules of Interlayer Excitons in Twisted Heterobilayers. 2015 , 115, 187002	142
1618	Experimental Evidence for Dark Excitons in Monolayer WSe ₂ . 2015 , 115, 257403	286
1617	Optical and spin polarization dynamics in GaSe nanoslabs. 2015 , 91,	22
1616	Spin-dependent refraction at the atomic step of transition-metal dichalcogenides. 2015 , 91,	15
1615	Effective tight-binding model for MX ₂ under electric and magnetic fields. 2015 , 91,	23
1614	Perfect valley filter in a topological domain wall. 2015 , 92,	42
1613	Valley entanglement of excitons in monolayers of transition-metal dichalcogenides. 2015 , 92,	9
1612	Exciton polaritons in transition-metal dichalcogenides and their direct excitation via energy transfer. 2015 , 92,	30
1611	Valley Hall effect in disordered monolayer MoS ₂ from first principles. 2015 , 92,	20
1610	Intervalley biexcitons and many-body effects in monolayer MoS ₂ . 2015 , 92,	130
1609	Local Spectroscopic Characterization of Spin and Layer Polarization in WSe ₂ . 2015 , 115, 136803	36
1608	The growth scale and kinetics of WS ₂ monolayers under varying H ₂ concentration. 2015 , 5, 13205	62
1607	Tunable Valley Polarization and Valley Orbital Magnetic Moment Hall Effect in Honeycomb Systems with Broken Inversion Symmetry. 2015 , 5, 13906	14
1606	Superconductivity Series in Transition Metal Dichalcogenides by Ionic Gating. 2015 , 5, 12534	170
1605	Novel Two-Dimensional Mechano-Electric Generators and Sensors Based on Transition Metal Dichalcogenides. 2015 , 5, 12854	17
1604	Phonon induced luminescence decay in monolayer MoS ₂ on SiO ₂ /Si substrates. 2015 , 107, 242103	14
1603	Stacking sequence determines Raman intensities of observed interlayer shear modes in 2D layered materials--A general bond polarizability model. 2015 , 5, 14565	46

1602	Valley depolarization in monolayer WSe ₂ . 2015 , 5, 15625	42
1601	Low temperature carrier transport study of monolayer MoS ₂ field effect transistors prepared by chemical vapor deposition under an atmospheric pressure. 2015 , 118, 124506	17
1600	Rapid, all-optical crystal orientation imaging of two-dimensional transition metal dichalcogenide monolayers. 2015 , 107, 111902	16
1599	Spectral separation of optical spin based on antisymmetric Fano resonances. 2015 , 5, 16585	12
1598	Spin splitting in 2D monochalcogenide semiconductors. 2015 , 5, 17044	47
1597	Orientation and strain modulated electronic structures in puckered arsenene nanoribbons. 2015 , 5, 067117	17
1596	Rapid and Nondestructive Identification of Polytypism and Stacking Sequences in Few-Layer Molybdenum Diselenide by Raman Spectroscopy. 2015 , 27, 4502-4508	85
1595	All Chemical Vapor Deposition Synthesis and Intrinsic Bandgap Observation of MoS ₂ /Graphene Heterostructures. 2015 , 27, 7086-92	100
1594	Synthesis and enhanced electrochemical catalytic performance of monolayer WS ₂ (1-x) Se _{2x} with a tunable band gap. 2015 , 27, 4732-8	173
1593	Band renormalization and spin polarization of MoS ₂ in graphene/MoS ₂ heterostructures. 2015 , 9, 701-706	12
1592	Controlled Synthesis of Organic/Inorganic van der Waals Solid for Tunable Light-Matter Interactions. 2015 , 27, 7800-8	94
1591	Revealing Optical Properties of Reduced-Dimensionality Materials at Relevant Length Scales. 2015 , 27, 5693-719	25
1590	Graphene Quantum Dots Doping of MoS ₂ Monolayers. 2015 , 27, 5235-40	135
1589	Monolayer Tungsten Disulfide Laser. 2015 ,	
1588	Substrate Facet Effect on the Growth of Monolayer MoS ₂ on Au Foils. 2015 , 9, 4017-25	78
1587	Single-Crystal Atomic-Layered Molybdenum Disulfide Nanobelts with High Surface Activity. 2015 , 9, 6478-83	57
1586	Effect of WO ₃ precursor and sulfurization process on WS ₂ crystals growth by atmospheric pressure CVD. 2015 , 156, 156-160	28
1585	Line and Point Defects in MoSe ₂ Bilayer Studied by Scanning Tunneling Microscopy and Spectroscopy. 2015 , 9, 6619-25	63

1584	Magneto-optics in transition metal diselenide monolayers. 2015 , 2, 034002		100
1583	Energy landscape and band-structure tuning in realistic MoS ₂ /MoSe ₂ heterostructures. 2015 , 91,		36
1582	Polarization-sensitive broadband photodetector using a black phosphorus vertical p-n junction. 2015 , 10, 707-13		785
1581	Monolayer PtSe ₂ : A New Semiconducting Transition-Metal-Dichalcogenide, Epitaxially Grown by Direct Selenization of Pt. 2015 , 15, 4013-8		420
1580	Raman scattering studies of the lattice dynamics in layered MoS ₂ . 2015 , 66, 1575-1580		10
1579	Transforming bilayer MoS ₂ into single-layer with strong photoluminescence using UV-ozone oxidation. 2015 , 8, 3878-3886		50
1578	Spin-orbit engineering in transition metal dichalcogenide alloy monolayers. <i>Nature Communications</i> , 2015 , 6, 10110	17.4	142
1577	Vibrational and optical properties of MoS ₂ : From monolayer to bulk. 2015 , 70, 554-586		125
1576	Exciton states in monolayer MoSe ₂ : impact on interband transitions. 2015 , 2, 045005		55
1575	Two-Dimensional Layered Materials-Based Spintronics. 2015 , 05, 1540011		8
1574	Nonlinear optical selection rule based on valley-exciton locking in monolayer MoS ₂ . 2015 , 4, e366-e366		70
1573	Two-dimensional materials for nanophotonics application. 2015 , 4, 128-142		76
1572	Landau levels and Shubnikov-de Haas oscillations in monolayer transition metal dichalcogenide semiconductors. 2015 , 17, 103006		23
1571	Nonanalyticity, Valley Quantum Phases, and Lightlike Exciton Dispersion in Monolayer Transition Metal Dichalcogenides: Theory and First-Principles Calculations. 2015 , 115, 176801		130
1570	Effects of substrates on the nonlinear optical responses of two-dimensional materials. 2015 , 23, 31817-27		11
1569	Optical Properties of Atomically Thin Layered Transition Metal Dichalcogenide. 2015 , 84, 121009		10
1568	Top-gated chemical vapor deposited MoS ₂ field-effect transistors on Si ₃ N ₄ substrates. 2015 , 106, 062101		64
1567	Interlayer Electronic Coupling in Arbitrarily Stacked MoS ₂ Bilayers Controlled by Interlayer SB Interaction. 2015 , 119, 1247-1252		24

1566	Electrostatically induced superconductivity at the surface of WS ₂ . 2015 , 15, 1197-202	116
1565	Divide and polarize. 2015 , 11, 94-95	16
1564	Carrier mobility of MoS ₂ nanoribbons with edge chemical modification. 2015 , 17, 6865-73	43
1563	Breaking of valley degeneracy by magnetic field in monolayer MoSe ₂ . 2015 , 114, 037401	401
1562	Electronic structure of epitaxial single-layer MoS ₂ . 2015 , 114, 046802	114
1561	Controlled doping of large-area trilayer MoS ₂ with molecular reductants and oxidants. 2015 , 27, 1175-81	155
1560	Magnetic control of valley pseudospin in monolayer WSe ₂ . 2015 , 11, 148-152	529
1559	Valley Zeeman effect in elementary optical excitations of monolayer WSe ₂ . 2015 , 11, 141-147	477
1558	Valley excitons in two-dimensional semiconductors. 2015 , 2, 57-70	188
1557	Evolution of Raman Scattering and Electronic Structure of Ultrathin Molybdenum Disulfide by Oxygen Chemisorption. 2015 , 1, 1400037	11
1556	Probing excitonic states in suspended two-dimensional semiconductors by photocurrent spectroscopy. 2014 , 4, 6608	285
1555	Controllable synthesis of high quality monolayer WS ₂ on a SiO ₂ /Si substrate by chemical vapor deposition. 2015 , 5, 15795-15799	52
1554	Synthesis and properties of molybdenum disulphide: from bulk to atomic layers. 2015 , 5, 7495-7514	227
1553	Optical generation and detection of pure valley current in monolayer transition-metal dichalcogenides. 2015 , 91,	29
1552	Coherent longitudinal acoustic phonon approaching THz frequency in multilayer Molybdenum Disulphide. 2014 , 4, 5722	56
1551	MoS ₂ and semiconductors in the flatland. 2015 , 18, 20-30	126
1550	Lighten the Olympia of the Flatland: Probing and Manipulating the Photonic Properties of 2D Transition-Metal Dichalcogenides. 2015 , 11, 3206-20	13
1549	Helicity-resolved Raman scattering of MoS ₂ , MoSe ₂ , WS ₂ and WSe ₂ atomic layers. 2015 , 15, 2526-32	186

1548	Intrinsic circular polarization in centrosymmetric stacks of transition-metal dichalcogenide compounds. 2015 , 114, 087402	41
1547	Giant enhancement of the optical second-harmonic emission of WSe ₂ monolayers by laser excitation at exciton resonances. 2015 , 114, 097403	365
1546	Exploring atomic defects in molybdenum disulphide monolayers. <i>Nature Communications</i> , 2015 , 6, 6293	17.4 851
1545	Observation of long-lived interlayer excitons in monolayer MoSe ₂ -WSe ₂ heterostructures. <i>Nature Communications</i> , 2015 , 6, 6242	17.4 896
1544	Exciton band structure of monolayer MoS ₂ . 2015 , 91,	185
1543	Two-dimensional dichalcogenides for light-harvesting applications. 2015 , 10, 128-137	165
1542	Measuring the refractive index of highly crystalline monolayer MoS ₂ with high confidence. 2015 , 5, 8440	119
1541	Phonon and Raman scattering of two-dimensional transition metal dichalcogenides from monolayer, multilayer to bulk material. 2015 , 44, 2757-85	755
1540	Tunable Magnetism and Half-Metallicity in Hole-Doped Monolayer GaSe. 2015 , 114, 236602	257
1539	Optical Investigation of Monolayer and Bulk Tungsten Diselenide (WSe ₂) in High Magnetic Fields. 2015 , 15, 4387-92	81
1538	Modelling of stacked 2D materials and devices. 2015 , 2, 032003	51
1537	Electronic structures and magnetic properties in nonmetallic element substituted MoS ₂ monolayer. 2015 , 107, 72-78	41
1536	Simulation study of the electron mobility in few-layer MoS ₂ metal-insulator-semiconductor field-effect transistors. 2015 , 114, 30-34	10
1535	On Valence-Band Splitting in Layered MoS ₂ . 2015 , 9, 8514-9	50
1534	Recent developments in black phosphorus transistors. 2015 , 3, 8760-8775	128
1533	Conduction Mechanisms in CVD-Grown Monolayer MoS ₂ Transistors: From Variable-Range Hopping to Velocity Saturation. 2015 , 15, 5052-8	80
1532	Direct On-Chip Optical Plasmon Detection with an Atomically Thin Semiconductor. 2015 , 15, 5477-81	33
1531	Gate controlled electronic transport in monolayer MoS ₂ field effect transistor. 2015 , 117, 104307	9

1530	Topological Polaritons. 2015 , 5,	154
1529	Enhanced second harmonic generation of MoS ₂ layers on a thin gold film. 2015 , 7, 13547-53	33
1528	Quantum spin Hall effect in two-dimensional transition-metal dichalcogenide haeckelites. 2015 , 91,	75
1527	Chemical vapor deposition of monolayer WS ₂ nanosheets on Au foils toward direct application in hydrogen evolution. 2015 , 8, 2881-2890	75
1526	Radio Frequency Transistors and Circuits Based on CVD MoS ₂ . 2015 , 15, 5039-45	113
1525	Resonant internal quantum transitions and femtosecond radiative decay of excitons in monolayer WSe ₂ . 2015 , 14, 889-93	224
1524	Excitons in monolayer transition metal dichalcogenides. 2015 , 27, 315301	12
1523	Effects of defects and impurities on the optical properties and the valley polarization in monolayer MoS ₂ . 2015 , 66, 1564-1568	4
1522	Nonlinear Optical Properties of Transition-Metal Dichalcogenide MX ₂ (M = Mo, W; X = S, Se) Monolayers and Trilayers from First-Principles Calculations. 2015 , 119, 13268-13276	68
1521	Anomalous lattice vibrations of monolayer MoS ₂ probed by ultraviolet Raman scattering. 2015 , 17, 14561-8	31
1520	Electric-field-induced strong enhancement of electroluminescence in multilayer molybdenum disulfide. <i>Nature Communications</i> , 2015 , 6, 7509	17.4 104
1519	Three-particle complexes in two-dimensional semiconductors. 2015 , 114, 107401	72
1518	Population pulsation resonances of excitons in monolayer MoSe ₂ with sub-1 eV linewidths. 2015 , 114, 137402	20
1517	An optical spectroscopic study on two-dimensional group-VI transition metal dichalcogenides. 2015 , 44, 2629-42	134
1516	Pressure confinement effect in MoS ₂ monolayers. 2015 , 7, 9075-82	34
1515	Computational 2D Materials Database: Electronic Structure of Transition-Metal Dichalcogenides and Oxides. 2015 , 119, 13169-13183	615
1514	Ultrafast multi-level logic gates with spin-valley coupled polarization anisotropy in monolayer MoS ₂ . 2015 , 5, 8289	28
1513	Emergence of ferroelectricity and spin-valley properties in two-dimensional honeycomb binary compounds. 2015 , 91,	107

1512	Electrical control of second-harmonic generation in a WSe ₂ monolayer transistor. 2015 , 10, 407-11	300
1511	Environment-Controlled Dislocation Migration and Superplasticity in Monolayer MoS ₂ . 2015 , 15, 3495-500	24
1510	Excitonic valley polarization and coherence in few-layer MoS ₂ . 2015 , 66, 806-810	7
1509	Optical second-harmonic generation in few-layer MoSe ₂ . 2015 , 66, 816-820	31
1508	Polarization-dependent photocurrent in MoS ₂ phototransistor. 2015 ,	
1507	Biexciton formation and exciton coherent coupling in layered GaSe. 2015 , 142, 212422	24
1506	Probing the role of interlayer coupling and coulomb interactions on electronic structure in few-layer MoSe ₂ nanostructures. 2015 , 15, 2594-9	110
1505	k · p theory for two-dimensional transition metal dichalcogenide semiconductors. 2015 , 2, 022001	456
1504	Double resonance Raman modes in monolayer and few-layer MoTe ₂ . 2015 , 91,	76
1503	Continuously tunable electronic structure of transition metal dichalcogenides superlattices. 2015 , 5, 8356	13
1502	High-performance flexible photodetectors based on GaTe nanosheets. 2015 , 7, 7252-8	97
1501	Few-layer MoS ₂ saturable absorbers for short-pulse laser technology: current status and future perspectives [Invited]. 2015 , 3, A30	163
1500	Magnetoluminescence and valley polarized state of a two-dimensional electron gas in WS ₂ monolayers. 2015 , 10, 603-7	69
1499	Observation of biexcitons in monolayer WSe ₂ . 2015 , 11, 477-481	399
1498	Single quantum emitters in monolayer semiconductors. 2015 , 10, 497-502	556
1497	Protein Induces Layer-by-Layer Exfoliation of Transition Metal Dichalcogenides. 2015 , 137, 6152-5	303
1496	Thickness identification of atomically thin InSe nanoflakes on SiO ₂ /Si substrates by optical contrast analysis. 2015 , 354, 453-458	26
1495	Exciton radiative lifetimes in two-dimensional transition metal dichalcogenides. 2015 , 15, 2794-800	409

1494	Observation of Excitonic Rydberg States in Monolayer MoS ₂ and WS ₂ by Photoluminescence Excitation Spectroscopy. 2015 , 15, 2992-7	259
1493	Indirect-to-direct band gap crossover in few-layer MoTe ₂ . 2015 , 15, 2336-42	265
1492	Interference effect on optical signals of monolayer MoS ₂ . 2015 , 107, 101904	36
1491	ELECTRONIC AND MAGNETIC PROPERTIES OF MONOLAYER WS ₂ DOPED WITH MnX _m (m = 0, 3, 6; X = N, O, F). 2015 , 22, 1550071	6
1490	Scalable fabrication of a hybrid field-effect and acousto-electric device by direct growth of monolayer MoS ₂ /LiNbO ₃ . <i>Nature Communications</i> , 2015 , 6, 8593	17.4 66
1489	Control of Light-Matter Interaction in 2D Atomic Crystals Using Microcavities. 2015 , 51, 1-8	4
1488	Monolayers of W _x Mo _{1-x} S ₂ alloy heterostructure with in-plane composition variations. 2015 , 106, 063113	86
1487	Optimal electron irradiation as a tool for functionalization of MoS ₂ : Theoretical and experimental investigation. 2015 , 117, 135701	15
1486	H-point exciton transitions in bulk MoS ₂ . 2015 , 106, 182103	13
1485	Polarization and time-resolved photoluminescence spectroscopy of excitons in MoSe ₂ monolayers. 2015 , 106, 112101	110
1484	Monolayer excitonic laser. 2015 , 9, 733-737	369
1483	Two-dimensional transition metal dichalcogenides as atomically thin semiconductors: opportunities and challenges. 2015 , 44, 8859-76	719
1482	Electrically tunable multiple Dirac cones in thin films of the (LaO) ₂ (SbSe ₂) ₂ family of materials. <i>Nature Communications</i> , 2015 , 6, 8517	17.4 22
1481	Two-dimensional transition metal dichalcogenide alloys: preparation, characterization and applications. 2015 , 7, 18392-401	157
1480	Buckled honeycomb lattice materials and unconventional magnetic responses. 2015 , 5, 83350-83360	4
1479	Synthesis of Epitaxial Single-Layer MoS ₂ on Au(111). 2015 , 31, 9700-6	97
1478	Optically bright p-excitons indicating strong Coulomb coupling in transition-metal dichalcogenides. 2015 , 27, 345003	20
1477	Gate-tunable diode and photovoltaic effect in an organic-2D layered material p-n junction. 2015 , 7, 15442-9	72

1476	Ultrafast Electron and Hole Relaxation Pathways in Few-Layer MoS ₂ . 2015 , 119, 20698-20708		36
1475	Single-Spin Dirac Fermion and Chern Insulator Based on Simple Oxides. 2015 , 15, 6434-9		73
1474	Two-dimensional transition metal dichalcogenides: Clusters, ribbons, sheets and more. 2015 , 10, 559-592		84
1473	Observation of intervalley quantum interference in epitaxial monolayer tungsten diselenide. <i>Nature Communications</i> , 2015 , 6, 8180	17.4	49
1472	Optical constants and dynamic conductivities of single layer MoS ₂ , MoSe ₂ , and WSe ₂ . 2015 , 107, 083103		64
1471	Valley Hall Effect in Two-Dimensional Hexagonal Lattices. 2015 , 84, 121006		37
1470	Optically initialized robust valley-polarized holes in monolayer WSe ₂ . <i>Nature Communications</i> , 2015 , 6, 8963	17.4	120
1469	Stacking-Dependent Interlayer Coupling in Trilayer MoS ₂ with Broken Inversion Symmetry. 2015 , 15, 8155-61		106
1468	Generation and detection of pure valley current by electrically induced Berry curvature in bilayer graphene. 2015 , 11, 1032-1036		250
1467	2D crystals of transition metal dichalcogenide and their iontronic functionalities. 2015 , 2, 044004		23
1466	Valley-selective optical Stark effect in monolayer WS ₂ . 2015 , 14, 290-4		338
1465	Monolayer MoS ₂ Growth on Au Foils and On-Site Domain Boundary Imaging. 2015 , 25, 842-849		59
1464	Synthesis of lateral heterostructures of semiconducting atomic layers. 2015 , 15, 410-5		242
1463	First-principles study of the phonon vibrational spectra and thermal properties of hexagonal MoS ₂ . 2015 , 40, 1-6		14
1462	Strong light-matter coupling in two-dimensional atomic crystals. 2015 , 9, 30-34		619
1461	Electronic structures and theoretical modelling of two-dimensional group-VIB transition metal dichalcogenides. 2015 , 44, 2643-63		398
1460	Measurement of high exciton binding energy in the monolayer transition-metal dichalcogenides WS ₂ and WSe ₂ . 2015 , 203, 16-20		206
1459	Superlattice valley engineering for designer topological insulators. 2014 , 4, 6397		24

1458	Synthesis and defect investigation of two-dimensional molybdenum disulfide atomic layers. 2015 , 48, 31-40	110
1457	Physical and chemical tuning of two-dimensional transition metal dichalcogenides. 2015 , 44, 2664-80	562
1456	Thermal conductivity determination of suspended mono- and bilayer WS ₂ by Raman spectroscopy. 2015 , 8, 1210-1221	205
1455	New first order Raman-active modes in few layered transition metal dichalcogenides. 2014 , 4, 4215	289
1454	Strain-engineering of magnetic coupling in two-dimensional magnetic semiconductor CrSiTe ₃ : Competition of direct exchange interaction and superexchange interaction. 2015 , 379, 60-63	55
1453	Photonic Structure-Integrated Two-Dimensional Material Optoelectronics. 2016 , 5, 93	12
1452	Electronic Band Structure of Transition Metal Dichalcogenides from Ab Initio and Slater-Koster Tight-Binding Model. 2016 , 6, 284	33
1451	Optoelectronic Devices Based on Atomically Thin Transition Metal Dichalcogenides. 2016 , 6, 78	74
1450	The Positive Effects of Hydrophobic Fluoropolymers on the Electrical Properties of MoS ₂ Transistors. 2016 , 6, 236	1
1449	The Effect of Twin Grain Boundary Tuned by Temperature on the Electrical Transport Properties of Monolayer MoS ₂ . 2016 , 6, 115	15
1448	Graphene and monolayer transition-metal dichalcogenides: properties and devices. 2016 , 31, 845-877	10
1447	Introduction to electronic and optical properties of two-dimensional molybdenum disulfide systems. 2016 , 13-43	1
1446	Two-dimensional monolayer designs for spintronics applications. 2016 , 6, 441-455	41
1445	Visualizing Optical Phase Anisotropy in Black Phosphorus. 2016 , 3, 1176-1181	68
1444	Valley polarization and p-/n-type doping of monolayer WTe ₂ on top of Fe ₃ O ₄ (111). 2016 , 18, 15039-45	28
1443	Functionalization of Two-Dimensional MoS ₂ : On the Reaction Between MoS ₂ and Organic Thiols. 2016 , 55, 5803-8	182
1442	Evolution of the Valley Position in Bulk Transition-Metal Chalcogenides and Their Monolayer Limit. 2016 , 16, 4738-45	56
1441	Zener Tunneling and Photoresponse of a WS ₂ /Si van der Waals Heterojunction. 2016 , 8, 18375-82	73

1440	Remote Plasma Oxidation and Atomic Layer Etching of MoS ₂ . 2016 , 8, 19119-26	115
1439	Atomically Thin MoS ₂ : A Versatile Nongraphene 2D Material. 2016 , 26, 2046-2069	166
1438	The valley filter efficiency of monolayer graphene and bilayer graphene line defect model. 2016 , 18, 103024	21
1437	Modulation of electronic properties from stacking orders and spin-orbit coupling for 3R-type MoS ₂ . 2016 , 6, 24140	21
1436	Nearly-free-electron system of monolayer Na on the surface of single-crystal HfSe ₂ . 2016 , 94,	9
1435	Observation of Intervalley Biexcitonic Optical Stark Effect in Monolayer WS ₂ . 2016 , 16, 7421-7426	35
1434	Determination of the band parameters of bulk 2H-MX (M = Mo, W; X = S, Se) by angle-resolved photoemission spectroscopy. 2016 , 6, 36389	17
1433	Magnetoreflexion spectroscopy of monolayer transition-metal dichalcogenide semiconductors in pulsed magnetic fields. 2016 , 34, 04J102	6
1432	Control of excitons in multi-layer van der Waals heterostructures. 2016 , 108, 101901	49
1431	Generation and Evolution of Spin-, Valley-, and Layer-Polarized Excited Carriers in Inversion-Symmetric WSe ₂ . 2016 , 117, 277201	93
1430	Quantum spin quantum anomalous Hall effect with tunable edge states in Sb monolayer-based heterostructures. 2016 , 94,	25
1429	Enabling Ultrasensitive Photo-detection Through Control of Interface Properties in Molybdenum Disulfide Atomic Layers. 2016 , 6, 39465	2
1428	Enhancement of carrier mobility in MoS ₂ field effect transistors by a SiO ₂ protective layer. 2016 , 108, 203105	25
1427	Laser energy dependence of valley polarization in transition-metal dichalcogenides. 2016 , 94,	16
1426	2D materials advances: from large scale synthesis and controlled heterostructures to improved characterization techniques, defects and applications. 2016 , 3, 042001	297
1425	Excitonic Stark effect in MoS ₂ monolayers. 2016 , 94,	32
1424	Long-Lived Valley Polarization of Intravalley Trions in Monolayer WSe ₂ . 2016 , 117, 257402	75
1423	Concepts of ferrovalley material and anomalous valley Hall effect. <i>Nature Communications</i> , 2016 , 7, 13617.4	143

1422	Screening effects due to carrier doping on valley relaxation in transition metal dichalcogenide monolayers. 2016 , 109, 073104		17
1421	Phase transition and spin-resolved transport in MoS2 nanoribbons. 2016 , 94,		5
1420	First-principle study of hydrogenation on monolayer MoS2. 2016 , 6, 075001		26
1419	Valley trion dynamics in monolayer MoSe2. 2016 , 94,		28
1418	Directional interlayer spin-valley transfer in two-dimensional heterostructures. <i>Nature Communications</i> , 2016 , 7, 13747	17.4	80
1417	Perspectives for spintronics in 2D materials. 2016 , 4, 032401		123
1416	Discovery of a new type of topological Weyl fermion semimetal state in MoWTe. <i>Nature Communications</i> , 2016 , 7, 13643	17.4	134
1415	Effects of intervalley scattering on the transport properties in one-dimensional valleytronic devices. 2016 , 6, 23211		15
1414	Auger recombination of dark excitons in WS ₂ and WSe ₂ monolayers. 2016 , 3, 035011		27
1413	Chemisorption-induced n-doping of MoS2 by oxygen. 2016 , 108, 063103		53
1412	High circular polarization in electroluminescence from MoSe2. 2016 , 108, 073107		29
1411	Well separated trion and neutral excitons on superacid treated MoS2 monolayers. 2016 , 108, 251106		46
1410	High room temperature optical polarization due to spin-valley coupling in monolayer WS ₂ . 2016 , 6, 055804		15
1409	Defect-Tolerant Monolayer Transition Metal Dichalcogenides. 2016 , 16, 2234-9		86
1408	Photonics and optoelectronics of 2D semiconductor transition metal dichalcogenides. 2016 , 10, 216-226		1997
1407	Why all the fuss about 2D semiconductors?. 2016 , 10, 202-204		205
1406	Pressure evolution of the potential barriers of phase transition of MoS2, MoSe2 and MoTe2. 2016 , 18, 12080-5		28
1405	Valence Band Splitting on Multilayer MoS2: Mixing of Spin-Orbit Coupling and Interlayer Coupling. 2016 , 7, 2175-81		54

1404	Valley-Coherent Hot Carriers and Thermal Relaxation in Monolayer Transition Metal Dichalcogenides. 2016 , 7, 2032-8	8
1403	Ultrafast Coulomb-Induced Intervalley Coupling in Atomically Thin WS ₂ . 2016 , 16, 2945-50	110
1402	Optical Stark effect in 2D semiconductors. 2016 ,	4
1401	Exciton formation in monolayer transition metal dichalcogenides. 2016 , 8, 11681-8	111
1400	Electrical generation and control of the valley carriers in a monolayer transition metal dichalcogenide. 2016 , 11, 598-602	195
1399	Optoelectronic devices based on two-dimensional transition metal dichalcogenides. 2016 , 9, 1543-1560	136
1398	Plasmonically enhanced photoluminescence of nanoscale semiconductors. 2016 ,	
1397	Valley Zeeman Splitting and Valley Polarization of Neutral and Charged Excitons in Monolayer MoTe ₂ at High Magnetic Fields. 2016 , 16, 3624-9	73
1396	Large-area high quality MoS ₂ monolayers grown by sulfur vapor counter flow diffusion. 2016 , 6, 50306-50314	23
1395	Intrinsic quantum spin Hall and anomalous Hall effects in h-Sb/Bi epitaxial growth on a ferromagnetic MnO ₂ thin film. 2016 , 8, 11202-9	12
1394	Dirac and Weyl Materials: Fundamental Aspects and Some Spintronics Applications. 2016 , 06, 1640003	76
1393	Surface states in a monolayer MoS ₂ transistor. 2016 , 31, 911-916	7
1392	Valley contrasting in epitaxial growth of In/Tl homoatomic monolayer with anomalous Nernst conductance. 2016 , 94,	5
1391	Revealing the nature of excitons in liquid exfoliated monolayer tungsten disulphide. 2016 , 27, 425701	10
1390	Transport Dynamics of Neutral Excitons and Trions in Monolayer WS ₂ . 2016 , 10, 9687-9694	61
1389	Colloidal Single-Layer Quantum Dots with Lateral Confinement Effects on 2D Exciton. 2016 , 138, 13253-13259	39
1388	Chemical doping modulation of nonlinear photoluminescence properties in monolayer MoS ₂ . 2016 , 9, 055202	13
1387	Pseudospin-induced chirality with staggered optical graphene. 2016 , 5, e16094	15

1386	Spin-Valley Coupling. 2016 , 389-420	
1385	Long-Lived Hole Spin/Valley Polarization Probed by Kerr Rotation in Monolayer WSe ₂ . 2016 , 16, 5010-4	64
1384	Broadband femtosecond transient absorption spectroscopy for a CVD MoS ₂ monolayer. 2016 , 94,	52
1383	Thickness-Dependent Binding Energy Shift in Few-Layer MoS ₂ Grown by Chemical Vapor Deposition. 2016 , 8, 22637-46	40
1382	Recent Advances in Doping of Molybdenum Disulfide: Industrial Applications and Future Prospects. 2016 , 28, 9024-9059	129
1381	Atomic-Layered MoS ₂ as a Tunable Optical Platform. 2016 , 4, 1429-1456	37
1380	2D materials and van der Waals heterostructures. 2016 , 353, aac9439	3469
1379	Review of photo response in semiconductor transition metal dichalcogenides based photosensitive devices. 2016 , 6, 2313	32
1378	Atomically phase-matched second-harmonic generation in a 2D crystal. 2016 , 5, e16131	109
1377	Raman spectroscopy of atomically thin two-dimensional magnetic iron phosphorus trisulfide (FePS ₃) crystals. 2016 , 3, 031009	199
1376	Free-standing electronic character of monolayer MoS ₂ in van der Waals epitaxy. 2016 , 94,	8
1375	Phonon induced line broadening and population of the dark exciton in a deeply trapped localized emitter in monolayer WSe ₂ . 2016 , 24, 8066-73	16
1374	Magnetic-Field-Induced Rotation of Polarized Light Emission from Monolayer WS ₂ . 2016 , 117, 077402	63
1373	Biaxial Strain and Electric Field Dependent Conductivity of Monolayer WTe ₂ on Top of Fe ₃ O ₄ (111). 2016 , 3, 1600581	12
1372	Synthetic methods and potential applications of transition metal dichalcogenide/graphene nanocomposites. 2016 , 326, 86-110	34
1371	Exciton Dynamics in Monolayer Transition Metal Dichalcogenides. 2016 , 33, C39-C49	101
1370	Giant spin splitting, strong valley selective circular dichroism and valley-spin coupling induced in silicene. 2016 , 94,	8
1369	Photoinduced charge transfer from vacuum-deposited molecules to single-layer transition metal dichalcogenides. 2016 , 55, 065201	10

1368	Anomalous temperature-dependent spin-valley polarization in monolayer WS ₂ . 2016 , 6, 18885	42
1367	Monitoring Electron-Photon Dressing in WSe. 2016 , 16, 7993-7998	46
1366	Theory of intervalley Coulomb interactions in monolayer transition-metal dichalcogenides. 2016 , 94,	34
1365	Advances in 2D Materials for Electronic Devices. 2016 , 95, 221-277	5
1364	Nonlinear Rashba spin splitting in transition metal dichalcogenide monolayers. 2016 , 8, 17854-17860	41
1363	Spin-polarized valley Hall effect in ultrathin silicon nanomembrane via interlayer antiferromagnetic coupling. 2016 , 3, 035026	7
1362	Optical absorption and transmission in a molybdenum disulfide monolayer. 2016 , 94,	20
1361	Lattice vibrations and Raman scattering in two-dimensional layered materials beyond graphene. 2016 , 9, 3559-3597	71
1360	Quantum magnetotransport properties of a MoS ₂ monolayer. 2016 , 93,	31
1359	Spin- and valley-polarized transport across line defects in monolayer MoS ₂ . 2016 , 93,	37
1358	Spin-valley qubit in nanostructures of monolayer semiconductors: Optical control and hyperfine interaction. 2016 , 93,	44
1357	Ultrastrong light-matter coupling of cyclotron transition in monolayer MoS ₂ . 2016 , 93,	
1356	Probing the uniaxial strains in MoS ₂ using polarized Raman spectroscopy: A first-principles study. 2016 , 93,	28
1355	Physical origin of Davydov splitting and resonant Raman spectroscopy of Davydov components in multilayer MoTe ₂ . 2016 , 93,	77
1354	Optical spin injection in MoS ₂ monolayers. 2016 , 93,	6
1353	Bilayer SnS ₂ : Tunable stacking sequence by charging and loading pressure. 2016 , 93,	33
1352	Magnetoexcitons in large area CVD-grown monolayer MoS ₂ and MoSe ₂ on sapphire. 2016 , 93,	57
1351	Spin-valley filter and tunnel magnetoresistance in asymmetrical silicene magnetic tunnel junctions. 2016 , 93,	22

1350	Valley Zeeman energy in monolayer MoS ₂ quantum rings: Aharonov-Bohm effect. 2016 , 93,	15
1349	Exciton radiative lifetime in transition metal dichalcogenide monolayers. 2016 , 93,	256
1348	High-temperature superfluidity of the two-component Bose gas in a transition metal dichalcogenide bilayer. 2016 , 93,	48
1347	Exciton Band Structure in Two-Dimensional Materials. 2016 , 116, 066803	80
1346	Valley Vortex States in Sonic Crystals. 2016 , 116, 093901	233
1345	Optical Coherence in Atomic-Monolayer Transition-Metal Dichalcogenides Limited by Electron-Phonon Interactions. 2016 , 116, 127402	85
1344	Suppressed Magnetic Circular Dichroism and Valley-Selective Magnetoabsorption due to the Effective Mass Anisotropy in Bismuth. 2016 , 117, 017402	4
1343	Strain-modulated excitonic gaps in mono- and bi-layer MoSe ₂ . 2016 , 25, 077802	13
1342	Modulation of opto-electronic properties of InSe thin layers via phase transformation. 2016 , 6, 70452-70459	14
1341	Valley physics in tin (II) sulfide. 2016 , 93,	88
1340	Stability and magnetism of strongly correlated single-layer VS ₂ . 2016 , 93,	118
1339	Spin relaxation in a hole-doped transition-metal dichalcogenide monolayer and bilayer with crystal defects. 2016 , 93,	9
1338	Splitting between bright and dark excitons in transition metal dichalcogenide monolayers. 2016 , 93,	156
1337	Single-layer MoS ₂ on Au(111): Band gap renormalization and substrate interaction. 2016 , 93,	93
1336	Screening and many-body effects in two-dimensional crystals: Monolayer MoS ₂ . 2016 , 93,	217
1335	Floquet-Engineered Valleytronics in Dirac Systems. 2016 , 116, 016802	43
1334	Tuning Valley Polarization in a WSe ₂ Monolayer with a Tiny Magnetic Field. 2016 , 6,	46
1333	Spinflip processes and radiative decay of dark intravalley excitons in transition metal dichalcogenide monolayers. 2016 , 3, 035009	55

1332	Valleytronics in 2D materials. 2016 , 1,		1045
1331	Momentum-resolved hot electron dynamics at the 2HMoS ₂ surface. 2016 , 94,		24
1330	The Role of Interfacial Electronic Properties on Phonon Transport in Two-Dimensional MoS on Metal Substrates. 2016 , 8, 33299-33306		15
1329	Excitonic linewidth and coherence lifetime in monolayer transition metal dichalcogenides. <i>Nature Communications</i> , 2016 , 7, 13279	17.4	248
1328	Cascaded emission of single photons from the biexciton in monolayered WSe. <i>Nature Communications</i> , 2016 , 7, 13409	17.4	61
1327	Effect of interlayer interactions on exciton luminescence in atomic-layered MoS ₂ crystals. 2016 , 6, 29813		23
1326	Photonics and optoelectronics of two-dimensional materials beyond graphene. 2016 , 27, 462001		203
1325	Control of Exciton Valley Coherence in Transition Metal Dichalcogenide Monolayers. 2016 , 117, 187401		89
1324	The role of collective motion in the ultrafast charge transfer in van der Waals heterostructures. <i>Nature Communications</i> , 2016 , 7, 11504	17.4	79
1323	Protecting the properties of monolayer MoS ₂ on silicon based substrates with an atomically thin buffer. 2016 , 6, 20890		47
1322	The polarization-dependent anisotropic Raman response of few-layer and bulk WTe ₂ under different excitation wavelengths. 2016 , 6, 103830-103837		21
1321	Spin relaxation and the Kondo effect in transition metal dichalcogenide monolayers. 2016 , 28, 505002		2
1320	Excitonic properties of semiconducting monolayer and bilayer MoTe ₂ . 2016 , 94,		40
1319	Ab initio study of electronic excitations and the dielectric function in molybdenum disulfide monolayer. 2016 , 94,		11
1318	Even-odd layer-dependent magnetotransport of high-mobility Q-valley electrons in transition metal disulfides. <i>Nature Communications</i> , 2016 , 7, 12955	17.4	64
1317	Tuning the photo-response in monolayer MoS ₂ by plasmonic nano-antenna. 2016 , 6, 23626		35
1316	Surface enhanced Raman scattering of monolayer MX ₂ with metallic nano particles. 2016 , 6, 30320		27
1315	Bandgap modulation of MoS monolayer by thermal annealing and quick cooling. 2016 , 8, 18995-19003		24

1314	Infrared to terahertz optical conductivity of n-type and p-type monolayer MoS ₂ in the presence of Rashba spin-orbit coupling. 2016 , 94,	14
1313	Magnetotransport study of valley-polarized electrons in synthetic diamond. 2016 , 94,	1
1312	Two-dimensional hexagonal semiconductors beyond graphene. 2016 , 7, 043001	9
1311	Optical polarization and intervalley scattering in single layers of MoS ₂ and MoSe ₂ . 2016 , 6, 25041	80
1310	Spin-orbital effects in metal-dichalcogenide semiconducting monolayers. 2016 , 6, 24093	44
1309	Two-dimensional wide-band-gap nitride semiconductors: Single-layer 1T \bar{X} N ₂ (X=S,Se, and Te). 2016 , 94,	14
1308	Origin of Improved Optical Quality of Monolayer Molybdenum Disulfide Grown on Hexagonal Boron Nitride Substrate. 2016 , 12, 198-203	19
1307	Monolayer Molybdenum Disulfide Nanoribbons with High Optical Anisotropy. 2016 , 4, 756-762	61
1306	Role of Spin-Orbit Interaction and Impurity Doping in Thermodynamic Properties of Monolayer MoS ₂ . 2016 , 45, 4958-4965	23
1305	Coherent Coupling of WS ₂ Monolayers with Metallic Photonic Nanostructures at Room Temperature. 2016 , 16, 4368-74	180
1304	Prediction of new stable structure, promising electronic and thermodynamic properties of MoS ₃ : Ab initio calculations. 2016 , 325, 246-251	57
1303	Effect of sulfur concentration on structural, elastic and electronic properties of molybdenum sulfides from first-principles. 2016 , 41, 11033-11041	33
1302	Spatial non-uniformity in exfoliated WS ₂ single layers. 2016 , 8, 16197-203	18
1301	Ferromagnetism in Transitional Metal-Doped MoS ₂ Monolayer. 2016 , 11, 154	75
1300	Revealing Defect-State Photoluminescence in Monolayer WS ₂ by Cryogenic Laser Processing. 2016 , 10, 5847-55	72
1299	Topological nature of in-gap bound states in disordered large-gap monolayer transition metal dichalcogenides. 2016 , 10, 409-414	2
1298	Computing optical properties of ultra-thin crystals. 2016 , 6, 351-368	13
1297	Large Spin-Valley Polarization in Monolayer MoTe ₂ on Top of EuO(111). 2016 , 28, 959-66	183

1296	Functionalization of Two-Dimensional MoS ₂ : On the Reaction Between MoS ₂ and Organic Thiols. 2016 , 128, 5897-5902	34
1295	Electrical control of the valley Hall effect in bilayer MoS ₂ transistors. 2016 , 11, 421-5	246
1294	Intercalation in two-dimensional transition metal chalcogenides. 2016 , 3, 452-463	130
1293	Fundamentals of lateral and vertical heterojunctions of atomically thin materials. 2016 , 8, 3870-87	90
1292	Biexciton Formation in Bilayer Tungsten Disulfide. 2016 , 10, 2176-83	46
1291	Linearly Polarized Excitons in Single- and Few-Layer ReS ₂ Crystals. 2016 , 3, 96-101	169
1290	Graphene-Molybdenum Disulfide-Graphene Tunneling Junctions with Large-Area Synthesized Materials. 2016 , 8, 8702-9	14
1289	Manipulating spin-polarized photocurrents in 2D transition metal dichalcogenides. 2016 , 113, 3746-50	44
1288	Electronic Structure, Surface Doping, and Optical Response in Epitaxial WSe ₂ Thin Films. 2016 , 16, 2485-91	111
1287	Robust band gap of TlS ₃ nanofilms. 2016 , 18, 14805-9	29
1286	Coherent quantum dynamics of excitons in monolayer transition metal dichalcogenides. 2016 ,	1
1285	Spin effects in MoS ₂ and WS ₂ single layers. 2016 , 10, 111-119	8
1284	Spatially resolved optical absorption spectroscopy of single- and few-layer MoS ₂ by hyperspectral imaging. 2016 , 27, 115705	99
1283	Valley-polarized exciton dynamics in a 2D semiconductor heterostructure. 2016 , 351, 688-91	451
1282	The tuning of light-matter coupling and dichroism in graphene for enhanced absorption: Implications for graphene-based optical absorption devices. 2016 , 49, 115106	12
1281	Valley depolarization dynamics and valley Hall effect of excitons in monolayer and bilayer MoS ₂ . 2016 , 93,	32
1280	Exciton diamagnetic shifts and valley Zeeman effects in monolayer WS ₂ and MoS ₂ to 65 Tesla. <i>Nature Communications</i> , 2016 , 7, 10643	17.4 184
1279	Robust room temperature valley polarization in monolayer and bilayer WS ₂ . 2016 , 8, 6035-42	50

1278	Electrically Tunable Valley-Light Emitting Diode (vLED) Based on CVD-Grown Monolayer WS ₂ . 2016 , 16, 1560-7	139
1277	Characterization of photo-induced anomalous Hall effect in the two-dimensional MoS ₂ . 2016 , 366, 310-316	4
1276	Stark Effect Spectroscopy of Mono- and Few-Layer MoS ₂ . 2016 , 16, 1554-9	61
1275	Interactions between lasers and two-dimensional transition metal dichalcogenides. 2016 , 45, 2494-515	49
1274	Tuning the electronic properties of monolayer and bilayer PtSe ₂ via strain engineering. 2016 , 4, 3106-3112	70
1273	Thickness-Dependent Thermal Conductivity of Suspended Two-Dimensional Single-Crystal In ₂ Se ₃ Layers Grown by Chemical Vapor Deposition. 2016 , 120, 4753-4758	38
1272	Direct measurement of exciton valley coherence in monolayer WSe ₂ . 2016 , 12, 677-682	168
1271	Strong Circularly Polarized Photoluminescence from Multilayer MoS ₂ Through Plasma Driven Direct-Gap Transition. 2016 , 3, 310-314	9
1270	Giant magneto-optical Raman effect in a layered transition metal compound. 2016 , 113, 2349-53	18
1269	Coulomb blockade in monolayer MoS ₂ single electron transistor. 2016 , 8, 7755-60	41
1268	Electron Counting and a Large Family of Two-Dimensional Semiconductors. 2016 , 28, 1994-1999	35
1267	Excitonic luminescence upconversion in a two-dimensional semiconductor. 2016 , 12, 323-327	135
1266	Probing Spin-Orbit Coupling and Interlayer Coupling in Atomically Thin Molybdenum Disulfide Using Hydrostatic Pressure. 2016 , 10, 1619-24	36
1265	Photo-Induced Bandgap Renormalization Governs the Ultrafast Response of Single-Layer MoS ₂ . 2016 , 10, 1182-8	209
1264	Charge transport and mobility engineering in two-dimensional transition metal chalcogenide semiconductors. 2016 , 45, 118-51	311
1263	Spin- and valley-polarized transport through ferromagnetic and antiferromagnetic barriers on monolayer MoS ₂ . 2016 , 75, 317-321	9
1262	Electronic and optical properties of O-doped monolayer MoS ₂ . 2016 , 111, 416-423	33
1261	Fast Relaxation of Photo-Excited Carriers in 2-D Transition Metal Dichalcogenides. 2017 , 23, 168-172	24

1260	Optical and Electronic Properties of Two-Dimensional Layered Materials. 2017 , 6, 479-493	86
1259	Tip-Enhanced Raman Scattering of MoS ₂ . 2017 , 23, 138-143	19
1258	Brightening of dark excitons in monolayers of semiconducting transition metal dichalcogenides. 2017 , 4, 021003	147
1257	Electronic properties of MoS ₂ nanoribbon with strain using tight-binding method. 2017 , 254, 1600565	9
1256	Probing the Spin-Polarized Electronic Band Structure in Monolayer Transition Metal Dichalcogenides by Optical Spectroscopy. 2017 , 17, 740-746	80
1255	Microsteganography on WS Monolayers Tailored by Direct Laser Painting. 2017 , 11, 713-720	31
1254	Optical Control of Spin Polarization in Monolayer Transition Metal Dichalcogenides. 2017 , 11, 1581-1587	28
1253	Epitaxial Stitching and Stacking Growth of Atomically Thin Transition-Metal Dichalcogenides (TMDCs) Heterojunctions. 2017 , 27, 1603884	57
1252	Dark excitons and the elusive valley polarization in transition metal dichalcogenides. 2017 , 4, 025016	53
1251	Magneto photoluminescence measurements of tungsten disulphide monolayers. 2017 , 29, 08LT02	6
1250	Many-body effects in nonlinear optical responses of 2D layered semiconductors. 2017 , 4, 025024	28
1249	Opto-valleytronic imaging of atomically thin semiconductors. 2017 , 12, 329-334	48
1248	Controlled Growth of 1D MoSe Nanoribbons with Spatially Modulated Edge States. 2017 , 17, 1116-1120	41
1247	The Effect of Exchange Magnetic Field on Spin Magnetic Susceptibility of Monolayer and AB-Stacked Bilayer MoS ₂ . 2017 , 30, 1905-1913	0
1246	Ab initio Modelling of Plasmons in Metal-semiconductor Bilayer Transition-metal Dichalcogenide Heterostructures. 2017 , 57, 540-546	4
1245	Quantum Effects and Phase Tuning in Epitaxial Hexagonal and Monoclinic MoTe Monolayers. 2017 , 11, 3282-3288	32
1244	Quantum dot behavior in transition metal dichalcogenides nanostructures. 2017 , 12, 1	20
1243	Strain-Modulated Electronic Structure and Infrared Light Adsorption in Palladium Diselenide Monolayer. 2017 , 7, 39995	31

1242	Nanobubble induced formation of quantum emitters in monolayer semiconductors. 2017 , 4, 021019	52
1241	Template-Free Vapor-Phase Growth of PbTe by Atomic Layer Deposition. 2017 , 29, 2864-2873	24
1240	Large, valley-exclusive Bloch-Siegert shift in monolayer WS. 2017 , 355, 1066-1069	61
1239	Atomic Defects in Two-Dimensional Materials: From Single-Atom Spectroscopy to Functionalities in Opto-/Electronics, Nanomagnetism, and Catalysis. 2017 , 29, 1606434	146
1238	Nature of low dimensional structural modulations and relative phase stability in $\text{Re}_x\text{Mo}_{1-x}\text{S}_2$ transition metal dichalcogenide alloys. 2017 , 121, 105101	12
1237	Spin heat capacity of monolayer and AB-stacked bilayer MoS_2 in the presence of exchange magnetic field. 2017 , 104, 331-340	5
1236	Robust dual topological character with spin-valley polarization in a monolayer of the Dirac semimetal Na_3Bi . 2017 , 95,	27
1235	Control of interlayer valley excitons in atomically-thin MoSe_2 - WSe_2 heterostructures. 2017 ,	
1234	Realization of Valley and Spin Pumps by Scattering at Nonmagnetic Disorders. 2017 , 118, 096602	14
1233	Tunable spin and valley dependent magneto-optical absorption in molybdenum disulfide quantum dots. 2017 , 7, 41044	19
1232	Insight into the structure and energy of $\text{Mo}_2\text{S}_x\text{O}_y$ clusters. 2017 , 7, 9513-9520	15
1231	Correlatively Dependent Lattice and Electronic Structural Evolutions in Compressed Monolayer Tungsten Disulfide. 2017 , 8, 941-947	9
1230	High thermoelectric power factor in two-dimensional crystals of MoS_2 . 2017 , 95,	133
1229	Odd-Integer Quantum Hall States and Giant Spin Susceptibility in p-Type Few-Layer WSe_2 . 2017 , 118, 067702	28
1228	Chern insulators without band inversion in MoS_2 monolayers with 3d adatoms. 2017 , 95,	12
1227	Width-dependent structural stability and magnetic properties of monolayer zigzag MoS_2 nanoribbons. 2017 , 31, 1750017	10
1226	A novel method for preparation of molybdenum disulfide/graphene composite. 2017 , 194, 145-148	12
1225	p-Type transition-metal doping of large-area MoS_2 thin films grown by chemical vapor deposition. 2017 , 9, 3576-3584	53

1224	Interfacial Engineering of Van der Waals Coupled 2D Layered Materials. 2017 , 4, 1601054	18
1223	Identifying and Visualizing the Edge Terminations of Single-Layer MoSe Island Epitaxially Grown on Au(111). 2017 , 11, 1689-1695	35
1222	Electrical spin injection and detection in molybdenum disulfide multilayer channel. <i>Nature Communications</i> , 2017 , 8, 14947	17.4 50
1221	Topological superconductivity in monolayer transition metal dichalcogenides. <i>Nature Communications</i> , 2017 , 8, 14985	17.4 94
1220	Optical properties of atomically thin transition metal dichalcogenides: observations and puzzles. 2017 , 6, 1289-1308	123
1219	Broken Symmetry Induced Strong Nonlinear Optical Effects in Spiral WS Nanosheets. 2017 , 11, 4892-4898	79
1218	Prospects of spintronics based on 2D materials. 2017 , 7, e1313	105
1217	Synthesis of CoS@rGO composites with excellent electrochemical performance for supercapacitors. 2017 , 794, 132-138	29
1216	Review of ultrafast spectroscopy studies of valley carrier dynamics in two-dimensional semiconducting transition metal dichalcogenides. 2017 , 26, 037801	19
1215	CVD growth of monolayer MoS ₂ : Role of growth zone configuration and precursors ratio. 2017 , 56, 06GG05	40
1214	Dark trions and biexcitons in WS and WSe made bright by e-e scattering. 2017 , 7, 45998	37
1213	Enhanced valley splitting in monolayer WSe due to magnetic exchange field. 2017 , 12, 757-762	220
1212	Second harmonic spectroscopy to optically detect valley polarization in 2D materials. 2017 , 4, 021027	13
1211	Enhanced lightmatter interaction of a MoS ₂ monolayer with a gold mirror layer. 2017 , 7, 23109-23113	10
1210	Tunable Wetting Property in Growth Mode-Controlled WS Thin Films. 2017 , 12, 262	7
1209	Systematic study of electronic structure and band alignment of monolayer transition metal dichalcogenides in Van der Waals heterostructures. 2017 , 4, 015026	108
1208	First-principles investigation of the effect of charged unit cell on the electronic structure of two-dimensional MoS ₂ . 2017 , 250, 64-69	4
1207	Intrinsic valley polarization of magnetic VSe monolayers. 2017 , 29, 255501	37

1206	The Effective Mass of Dirac Fermions and Spin-Dependent Thermodynamic Properties of Monolayer Ferromagnetic MoS ₂ in the Presence of Rashba Spin-Orbit Coupling. 2017 , 30, 3137-3141	2
1205	Heterostructures containing dichalcogenides-new materials with predictable nanoarchitectures and novel emergent properties. 2017 , 32, 093004	24
1204	Electrostatic-Driven Exfoliation and Hybridization of 2D Nanomaterials. 2017 , 29, 1700326	46
1203	Controlling the spin and valley degeneracy splitting in monolayer MnPSe by atom doping. 2017 , 19, 15388-15393	33
1202	Optical polarization in mono and bilayer MoS ₂ . 2017 , 17, 1153-1157	3
1201	Plasmon-exciton coupling of monolayer MoS ₂ -Ag nanoparticles hybrids for surface catalytic reaction. 2017 , 5, 72-78	132
1200	Large-scale quantum-emitter arrays in atomically thin semiconductors. <i>Nature Communications</i> , 2017 , 8, 15093	17.4 275
1199	Opto-Valleytronic Spin Injection in Monolayer MoS/Few-Layer Graphene Hybrid Spin Valves. 2017 , 17, 3877-3883	131
1198	Chiral topological excitons in the monolayer transition metal dichalcogenides. 2017 , 7, 42390	7
1197	Spin and valley transport in the ferromagnetic MoS ₂ junctions subjected by the gate voltage. 2017 , 827, 012011	2
1196	Electronic and optical properties of nanostructured MoS materials: influence of reduced spatial dimensions and edge effects. 2017 , 19, 15891-15902	18
1195	Geometric decoherence of valley excitons in monolayer transition metal dichalcogenides. 2017 , 29, 295601	
1194	Defect Healing and Charge Transfer-Mediated Valley Polarization in MoS/MoSe/MoS Trilayer van der Waals Heterostructures. 2017 , 17, 4130-4136	44
1193	High Mobility 2D Palladium Diselenide Field-Effect Transistors with Tunable Ambipolar Characteristics. 2017 , 29, 1602969	180
1192	Enabling valley selective exciton scattering in monolayer WSe through upconversion. <i>Nature Communications</i> , 2017 , 8, 14927	17.4 97
1191	Temperature-dependent morphology of chemical vapor grown molybdenum disulfide. 2017 , 50, 164002	6
1190	Layer-number dependent high-frequency vibration modes in few-layer transition metal dichalcogenides induced by interlayer couplings. 2017 , 38, 031006	15
1189	Controlling plasmon modes and damping in buckled two-dimensional material open systems. 2017 , 121, 084306	10

1188	Quantitative Modeling of MoS ₂ /Solvent Interfaces: Predicting Contact Angles and Exfoliation Performance using Molecular Dynamics. 2017 , 121, 9022-9031	58
1187	Atomic-Scale Imaging and Spectroscopy of Electroluminescence at Molecular Interfaces. 2017 , 117, 5174-5222	95
1186	Optical selection rules for excitonic Rydberg series in the massive Dirac cones of hexagonal two-dimensional materials. 2017 , 95,	15
1185	Tailoring the electronic and magnetic properties of monolayer SnO by B, C, N, O and F adatoms. 2017 , 7, 44568	11
1184	Electronic structure of the Co(0001)/MoS ₂ interface and its possible use for electrical spin injection in a single MoS ₂ layer. 2017 , 95,	11
1183	Unconventional superconductivity from magnetism in transition-metal dichalcogenides. 2017 , 95,	15
1182	Raman-like resonant secondary emission causes valley coherence in CVD-grown monolayer MoS ₂ . 2017 , 95,	7
1181	Anomalous enhancement of valley polarization in multilayer WS ₂ at room temperature. 2017 , 9, 5148-5154	17
1180	Topological insulating states in 2D transition metal dichalcogenides induced by defects and strain. 2017 , 9, 562-569	21
1179	Interlayer Exciton Optoelectronics in a 2D Heterostructure p-n Junction. 2017 , 17, 638-643	193
1178	Chemical Vapor Deposition Growth of Few-Layer MoTe in the 2H, 1T', and 1T Phases: Tunable Properties of MoTe Films. 2017 , 11, 900-905	129
1177	Valley splitting in the transition-metal dichalcogenide monolayer via atom adsorption. 2017 , 9, 2188-2194	41
1176	Layer-Number Dependent Optical Properties of 2D Materials and Their Application for Thickness Determination. 2017 , 27, 1604468	130
1175	Electric Field Effect in Two-Dimensional Transition Metal Dichalcogenides. 2017 , 27, 1602404	36
1174	Exciton valley dynamics in monolayer WSe ₂ probed by the two-color ultrafast Kerr rotation. 2017 , 19, 3176-3181	20
1173	Ultrafast Laser Spectroscopy of Two-Dimensional Materials Beyond Graphene. 2017 , 27, 1604509	97
1172	Chiral topological excitons in a Chern band insulator. 2017 , 96,	4
1171	Exciton broadening in WS ₂ /graphene heterostructures. 2017 , 96,	38

1170	Unidirectional Doubly Enhanced MoS Emission via Photonic Fano Resonances. 2017 , 17, 6715-6720	52
1169	Excellent valleytronic properties and nontrivial topological phase in germanene heterostructure. 2017 , 4, 105032	1
1168	Structural phase transition in monolayer MoTe driven by electrostatic doping. 2017 , 550, 487-491	390
1167	Optical polarization of excitons and trions under continuous and pulsed excitation in single layers of WSe. 2017 , 9, 17422-17428	8
1166	Multiband $k\Gamma$ theory of monolayer XSe (X=In,Ga). 2017 , 96,	20
1165	First-principles prediction of Tl/SiC for valleytronics. 2017 , 5, 10427-10433	9
1164	Fine structure and lifetime of dark excitons in transition metal dichalcogenide monolayers. 2017 , 96,	98
1163	Zeeman splitting via spin-valley-layer coupling in bilayer MoTe. <i>Nature Communications</i> , 2017 , 8, 802	17.4 35
1162	Trion-Species-Resolved Quantum Beats in MoSe. 2017 , 11, 11550-11558	23
1161	Microscopic Origin of the Valley Hall Effect in Transition Metal Dichalcogenides Revealed by Wavelength-Dependent Mapping. 2017 , 17, 5719-5725	40
1160	Spatial valley separation in strained graphene pn junction. 2017 , 29, 385401	6
1159	Plasmon modes of bilayer molybdenum disulfide: a density functional study. 2017 , 29, 465701	6
1158	Excitonic Linewidth Approaching the Homogeneous Limit in MoS ₂ -Based van der Waals Heterostructures. 2017 , 7,	237
1157	Observation of ultralong valley lifetime in WSe/MoS heterostructures. 2017 , 3, e1700518	160
1156	Orbital-dependent quasiparticle scattering interference in 3R-NbS ₂ . 2017 , 96,	7
1155	Probing of free and localized excitons and trions in atomically thin WSe, WS, MoSe and MoS in photoluminescence and reflectivity experiments. 2017 , 28, 395702	64
1154	Optimizing Nonlinear Optical Visibility of Two-Dimensional Materials. 2017 , 9, 34448-34455	15
1153	Atomically inspired $k\Gamma$ approach and valley Zeeman effect in transition metal dichalcogenide monolayers. 2017 , 95,	26

1152	Prediction of stable ground-state and pressure-induced phase transition of molybdenum monosulfide. 2017 , 226, 114-119	
1151	Highly Localized Strain in a MoS/Au Heterostructure Revealed by Tip-Enhanced Raman Spectroscopy. 2017 , 17, 6027-6033	66
1150	Recent advances in black phosphorus-based photonics, electronics, sensors and energy devices. 2017 , 4, 997-1019	250
1149	Valley filter and valve effect by strong electrostatic potentials in graphene. 2017 , 7, 10236	15
1148	Chiral response in lattice models of Weyl materials. 2017 , 96,	8
1147	Progress of Large-Scale Synthesis and Electronic Device Application of Two-Dimensional Transition Metal Dichalcogenides. 2017 , 13, 1700098	37
1146	Valley precession and valley polarization in graphene with inter-valley coupling. 2017 , 29, 395303	5
1145	Excitons and trions in monolayer transition metal dichalcogenides: A comparative study between the multiband model and the quadratic single-band model. 2017 , 96,	53
1144	High-throughput Identification and Characterization of Two-dimensional Materials using Density functional theory. 2017 , 7, 5179	122
1143	Spin and valley control of free carriers in single-layer WS ₂ . 2017 , 95,	31
1142	Disorder-dependent valley properties in monolayer WSe ₂ . 2017 , 96,	14
1141	Optical control of room-temperature valley polaritons. 2017 , 11, 491-496	121
1140	Impact of strain on the optical fingerprint of monolayer transition-metal dichalcogenides. 2017 , 96,	41
1139	Pressure-Dependent Light Emission of Charged and Neutral Excitons in Monolayer MoSe. 2017 , 8, 3556-3563	28
1138	Observation of acoustic valley vortex states and valley-chirality locked beam splitting. 2017 , 95,	72
1137	Valley-Polarized Quantum Anomalous Hall Effect in Ferrimagnetic Honeycomb Lattices. 2017 , 119, 046403	22
1136	Quantum valley Hall effect and perfect valley filter based on photonic analogs of transitional metal dichalcogenides. 2017 , 95,	26
1135	In-Plane Propagation of Light in Transition Metal Dichalcogenide Monolayers: Optical Selection Rules. 2017 , 119, 047401	176

1134	Single-layer group IV-V and group V-IV-III-VI semiconductors: Structural stability, electronic structures, optical properties, and photocatalysis. 2017 , 96,	34
1133	Nonreciprocal Giant Magneto-Optic Effects in Transition-Metal Dichalcogenides without Magnetic Field. 2017 , 8, 3805-3812	12
1132	Tungsten dichalcogenides (WS ₂ , WSe ₂ , and WTe ₂): materials chemistry and applications. 2017 , 5, 18299-18325	197
1131	Understanding Variations in Circularly Polarized Photoluminescence in Monolayer Transition Metal Dichalcogenides. 2017 , 11, 7988-7994	40
1130	Robust high-temperature trion emission in monolayers of Mo(SySe _{1-y}) ₂ alloys. 2017 , 95,	20
1129	Room-temperature half-metallicity in monolayer honeycomb structures of group-V binary compounds with carrier doping. 2017 , 96,	33
1128	Multicomponent plasmons in monolayer MoS ₂ with circularly polarized optical pumping. 2017 , 96,	0
1127	Odd-parity superconductivity in bilayer transition metal dichalcogenides. 2017 , 96,	27
1126	The optical response of monolayer, few-layer and bulk tungsten disulfide. 2017 , 9, 13128-13141	66
1125	Charged excitons in monolayer WSe ₂ : Experiment and theory. 2017 , 96,	137
1124	Electronic Properties and Strain Engineering in Semiconducting Transition Metal Dichalcogenides. 259-278	
1123	Valley-Spin Physics in 2D Semiconducting Transition Metal Dichalcogenides. 279-294	
1122	Combining 2D inorganic semiconductors and organic polymers at the frontier of the hard/soft materials interface. 2017 , 5, 11158-11164	10
1121	Valleytronics in merging Dirac cones: All-electric-controlled valley filter, valve, and universal reversible logic gate. 2017 , 96,	62
1120	Large spin-orbit splitting in the conduction band of halogen (F, Cl, Br, and I) doped monolayer WS ₂ with spin-orbit coupling. 2017 , 96,	23
1119	Diversity of trion states and substrate effects in the optical properties of an MoS monolayer. <i>Nature Communications</i> , 2017 , 8, 2117	17.4 84
1118	Vacuum level dependent photoluminescence in chemical vapor deposition-grown monolayer MoS. 2017 , 7, 16714	20
1117	Chemically exfoliated MoS ₂ layers: Spectroscopic evidence for the semiconducting nature of the dominant trigonal metastable phase. 2017 , 96,	31

1116	Strain effect on electronic structure of two-dimensional E_nSe nanosheets. 2017 , 10, 125202	4
1115	Valley Polarization of Trions and Magnetoresistance in Heterostructures of MoS and Yttrium Iron Garnet. 2017 , 11, 12257-12265	25
1114	Potential Profile of Stabilized Field-Induced Lateral p-n Junction in Transition-Metal Dichalcogenides. 2017 , 11, 12583-12590	20
1113	Giant Valley Splitting and Valley Polarized Plasmonics in Group V Transition-Metal Dichalcogenide Monolayers. 2017 , 8, 5764-5770	17
1112	Electron spin relaxation in a transition-metal dichalcogenide quantum dot. 2017 , 4, 025114	23
1111	Optical fingerprint of non-covalently functionalized transition metal dichalcogenides. 2017 , 29, 384003	2
1110	K-Fermi crossover transition in the conduction band of monolayer MoS under hydrostatic pressure. 2017 , 3, e1700162	37
1109	Low-Frequency Shear and Layer-Breathing Modes in Raman Scattering of Two-Dimensional Materials. 2017 , 11, 11777-11802	109
1108	Anomalous in-plane anisotropic Raman response of monoclinic semimetal $1T'-\text{MoTe}_2$. 2017 , 7, 1758	32
1107	Magnetic brightening and control of dark excitons in monolayer WSe. 2017 , 12, 883-888	213
1106	Binding energies of trions and biexcitons in two-dimensional semiconductors from diffusion quantum Monte Carlo calculations. 2017 , 95,	64
1105	Apparent breakdown of Raman selection rule at valley exciton resonances in monolayer MoS ₂ . 2017 , 95,	26
1104	Metallic modification of molybdenum disulfide monolayer via doping charge carriers: A DFT investigation. 2017 , 684, 158-163	5
1103	Ab Initio Calculations of Ultrashort Carrier Dynamics in Two-Dimensional Materials: Valley Depolarization in Single-Layer WSe. 2017 , 17, 4549-4555	58
1102	Observation of forbidden phonons, Fano resonance and dark excitons by resonance Raman scattering in few-layer WS ₂ . 2017 , 4, 031007	30
1101	Control of Coherently Coupled Exciton Polaritons in Monolayer Tungsten Disulphide. 2017 , 119, 027403	67
1100	Perfect valley polarization in MoS ₂ . 2017 , 90, 1	1
1099	Intervalley dark trion states with spin lifetimes of 150 ns in WSe ₂ . 2017 , 95,	33

1098	Spin-degenerate regimes for single quantum dots in transition metal dichalcogenide monolayers. 2017, 95,	18
1097	Robustly protected carrier spin relaxation in electrostatically doped transition-metal dichalcogenides. 2017, 95,	11
1096	Long valley relaxation time of free carriers in monolayer WSe ₂ . 2017, 95,	29
1095	Topological Exciton Bands in Moiré Heterojunctions. 2017, 118, 147401	155
1094	Electronic structure in 1T-ZrS ₂ monolayer by strain. 2017, 93, 87-91	6
1093	Current rectification and asymmetric photoresponse in MoS ₂ stacking-induced homojunctions. 2017, 4, 035011	11
1092	Theoretical prediction of thermal transport in BC 2 N monolayer. 2017, 38, 249-256	32
1091	Transition metal dichalcogenides: structural, optical and electronic property tuning via thickness and stacking. 2017, 4, 1-19	39
1090	Ultrafast sublattice pseudospin relaxation in graphene probed by polarization-resolved photoluminescence. 2017, 95,	8
1089	Giant Paramagnetism-Induced Valley Polarization of Electrons in Charge-Tunable Monolayer MoSe ₂ . 2017, 118, 237404	50
1088	Excitons in atomically thin 2D semiconductors and their applications. 2017, 6, 1309-1328	100
1087	Valley- and spin-polarized Landau levels in monolayer WSe. 2017, 12, 144-149	121
1086	Valley polarization in stacked MoS ₂ induced by circularly polarized light. 2017, 10, 1618-1626	14
1085	Electron Spin Dynamics of Two-Dimensional Layered Materials. 2017, 27, 1604040	12
1084	Screening effect of graphite and bilayer graphene on excitons in MoSe ₂ monolayer. 2017, 4, 015021	12
1083	A Route to Permanent Valley Polarization in Monolayer MoS. 2017, 29, 1600970	72
1082	The Effect of Dilute Charged Impurity on the Electronic Heat Capacity and Magnetic Susceptibility of Ferromagnetic MoS ₂ . 2017, 30, 943-949	2
1081	Electronic and magnetic properties of Mn-doped WSe ₂ monolayer under strain. 2017, 88, 11-17	8

1080	First-Principles Studies of the Magnetic Anisotropy of Monolayer VS ₂ . 2017 , 30, 1201-1206	12
1079	First-principles investigation of the thermodynamic properties of two-dimensional MoS ₂ . 2017 , 55, 105-114	5
1078	Optical manipulation of valley pseudospin. 2017 , 13, 26-29	128
1077	Electronic reconstruction on dimerized IrTe ₂ . 2017 , 120, 47003	2
1076	Probing the valley filtering effect by Andreev reflection in a zigzag graphene nanoribbon with a ballistic point contact. 2017 , 96,	6
1075	Photon wavelength dependent valley photocurrent in multilayer MoS ₂ . 2017 , 96,	10
1074	Symmetry-forbidden intervalley scattering by atomic defects in monolayer transition-metal dichalcogenides. 2017 , 96,	23
1073	Versatile electronic and magnetic properties of chemically doped 2D platinum diselenide monolayers: A first-principles study. 2017 , 7, 125126	4
1072	Layer-number dependent and structural defect related optical properties of InSe. 2017 , 7, 54964-54968	22
1071	Efros-Shklovskii variable range hopping and nonlinear transport in 1T/1T' ₂ MoS ₂ . 2017 , 96,	8
1070	Influence of band offset, nanostructuring, and applied electric field on the optoelectronic properties of vertically stacked MoS ₂ /WS ₂ materials. 2017 , 96,	6
1069	Physical mechanism on exciton-plasmon coupling revealed by femtosecond pump-probe transient absorption spectroscopy. 2017 , 3, 33-40	63
1068	Giant photoluminescence enhancement in monolayer WS ₂ by energy transfer from CsPbBr ₃ quantum dots. 2017 , 7, 1327	24
1067	Substrate engineering for high-quality emission of free and localized excitons from atomic monolayers in hybrid architectures. 2017 , 4, 669	17
1066	Valley Polarized Single Photon Source Based on Transition Metal Dichalcogenides Quantum Dots. 2017 ,	
1065	Electrical control of the anomalous valley Hall effect in antiferrovalley bilayers. 2017 , 2,	25
1064	Valley-polarized exciton-polaritons in a monolayer semiconductor. 2017 , 11, 431-435	127
1063	Microsecond dark-exciton valley polarization memory in two-dimensional heterostructures. <i>Nature Communications</i> , 2018 , 9, 753	17.4 70

1062	Antichiral Edge States in a Modified Haldane Nanoribbon. 2018 , 120, 086603	57
1061	Two-dimensional transition metal dichalcogenides: interface and defect engineering. 2018 , 47, 3100-3128	381
1060	Orbital Symmetry and the Optical Response of Single-Layer MX Monochalcogenides. 2018 , 18, 1925-1929	30
1059	Unifying Optical Selection Rules for Excitons in Two Dimensions: Band Topology and Winding Numbers. 2018 , 120, 087402	34
1058	Hole Transport in Exfoliated Monolayer MoS. 2018 , 12, 2669-2676	29
1057	Magnetic field dependence of electronic properties of MoS ₂ quantum dots with different edges. 2018 , 97,	14
1056	Circularly polarized photoluminescence and Hanle effect measurements of spin relaxation in organic/inorganic hybrid perovskite films. 2018 , 6, 2989-2995	21
1055	Band nesting, massive Dirac fermions, and valley Landé and Zeeman effects in transition metal dichalcogenides: A tight-binding model. 2018 , 97,	18
1054	Chemical Vapor Deposition Synthesis of MoS ₂ Layers from the Direct Sulfidation of MoO ₃ Surfaces Using Reactive Molecular Dynamics Simulations. 2018 , 122, 7494-7503	29
1053	Coupling-Assisted Renormalization of Excitons and Vibrations in Compressed MoSe ₂ /WSe ₂ Heterostructure. 2018 , 122, 5820-5828	13
1052	Location of the valence band maximum in the band structure of anisotropic 1T'WSe ₂ . 2018 , 97,	6
1051	Investigation of indirect excitons in bulk 2H-MoS using transmission electron energy-loss spectroscopy. 2018 , 30, 205502	4
1050	Room-Temperature Nanoseconds Spin Relaxation in WTe and MoTe Thin Films. 2018 , 5, 1700912	25
1049	Circular Dichroism Control of Tungsten Diselenide (WSe) Atomic Layers with Plasmonic Metamolecules. 2018 , 10, 15996-16004	14
1048	Rashba effect and enriched spin-valley coupling in GaX/MX ₂ (M = Mo, W; X = S, Se, Te) heterostructures. 2018 , 97,	31
1047	Photoelectrochemical platform for cancer cell glutathione detection based on polyaniline and nanoMoS composites modified gold electrode. 2018 , 112, 93-99	16
1046	Velocity barrier-controlled of spin-valley polarized transport in monolayer WSe ₂ junction. 2018 , 117, 449-456	3
1045	Colloquium: Excitons in atomically thin transition metal dichalcogenides. 2018 , 90,	766

1044	Optical nonlinearities of excitons in monolayer MoS ₂ . 2018 , 97,	17
1043	Phase Transitions of the Polariton Condensate in 2D Dirac Materials. 2018 , 120, 157601	3
1042	Topological and magnetic phase transition in silicene-like zigzag nanoribbons. 2018 , 20, 043054	12
1041	Epitaxial growth of single-orientation high-quality MoS ₂ monolayers. 2018 , 5, 035012	41
1040	Response of the monolayer molybdenum disulfide to external circularly and/or elliptically polarized electromagnetic fields. 2018 , 124, 1	0
1039	Strain Modulated Electronic, Mechanical, and Optical Properties of the Monolayer PdS ₂ , PdSe ₂ , and PtSe ₂ for Tunable Devices. 2018 , 1, 1932-1939	57
1038	Visualizing grain boundaries in monolayer MoSe ₂ using mild H ₂ O vapor etching. 2018 , 11, 4082-4089	14
1037	Optically adjustable valley Hall current in single-layer transition metal dichalcogenides. 2018 , 123, 054301	1
1036	First- and second-order Raman scattering from MoTe ₂ single crystal. 2018 , 91, 1	7
1035	Perfect valley filter based on a topological phase in a disordered Sb monolayer heterostructure. 2018 , 97,	9
1034	Superior Valley Polarization and Coherence of 2s Excitons in Monolayer WSe ₂ . 2018 , 120, 046402	26
1033	Exciton broadening and band renormalization due to Dexter-like intervalley coupling. 2018 , 5, 025011	12
1032	Topological Valley Transport in Two-dimensional Honeycomb Photonic Crystals. 2018 , 8, 1588	45
1031	Conduction-band valley spin splitting in single-layer H-Tl ₂ O. 2018 , 97,	26
1030	Magneto-optics of Exciton Rydberg States in a Monolayer Semiconductor. 2018 , 120, 057405	126
1029	Effect of vacancy defect on optoelectronic properties of monolayer tungsten diselenide. 2018 , 50, 1	56
1028	Induction of Chirality in Two-Dimensional Nanomaterials: Chiral 2D MoS ₂ Nanostructures. 2018 , 12, 954-964	54
1027	Linear and nonlinear magneto-optical properties of monolayer MoS ₂ . 2018 , 123, 034301	16

1026	Strongly Interaction-Enhanced Valley Magnetic Response in Monolayer WSe ₂ . 2018 , 120, 066402	30
1025	Cavity-Induced Enhancement of Magneto-Optic Effects in Monolayer Transition Metal Dichalcogenides. 2018 , 6, 1701175	5
1024	A Facile Space-Confined Solid-Phase Sulfurization Strategy for Growth of High-Quality Ultrathin Molybdenum Disulfide Single Crystals. 2018 , 18, 2021-2032	28
1023	Circular dichroism and radial Hall effects in topological materials. 2018 , 97,	14
1022	Theory of optical absorption by interlayer excitons in transition metal dichalcogenide heterobilayers. 2018 , 97,	122
1021	Nanoscale chiral valley-photon interface through optical spin-orbit coupling. 2018 , 359, 443-447	141
1020	2D MoS Nanostructures for Biomedical Applications. 2018 , 7, e1701158	89
1019	Epitaxial Single-Layer MoS on GaN with Enhanced Valley Helicity. 2018 , 30, 1703888	55
1018	Tunable Valley and Spin Polarizations in BiXO/BiIrO (X = Fe, Mn) Ferroelectric Superlattices. 2018 , 10, 3822-3829	14
1017	Imaging spin dynamics in monolayer WS ₂ by time-resolved Kerr rotation microscopy. 2018 , 5, 011010	34
1016	THz photonics in two dimensional materials and metamaterials: properties, devices and prospects. 2018 , 6, 1291-1306	81
1015	Large valley polarization in monolayer MoTe on a magnetic substrate. 2018 , 20, 3805-3812	28
1014	Large valley splitting in monolayer WS ₂ by proximity coupling to an insulating antiferromagnetic substrate. 2018 , 97,	76
1013	Nondegenerate valleys in the half-metallic ferromagnet Fe/WS ₂ . 2018 , 97,	2
1012	Novel Optoelectronic Devices: Transition-Metal-Dichalcogenide-Based 2D Heterostructures. 2018 , 4, 1700335	61
1011	Light Sources and Photodetectors Enabled by 2D Semiconductors. 2018 , 2, 1800019	24
1010	Double Indirect Interlayer Exciton in a MoSe/WSe van der Waals Heterostructure. 2018 , 12, 4719-4726	111
1009	Dark and bright exciton formation, thermalization, and photoluminescence in monolayer transition metal dichalcogenides. 2018 , 5, 035017	89

1008	Brightened spin-triplet interlayer excitons and optical selection rules in van der Waals heterobilayers. 2018 , 5, 035021	61
1007	Temperature induced crossing in the optical bandgap of mono and bilayer MoS on SiO. 2018 , 8, 5380	2
1006	Raman spectroscopy characterization of two-dimensional materials. 2018 , 27, 037802	18
1005	Observation of oscillations in the transport for atomic layer MoS 2. 2018 , 27, 028103	
1004	Nonlinear Optics with 2D Layered Materials. 2018 , 30, e1705963	309
1003	Valley- and spin-polarized oscillatory magneto-optical absorption in monolayer MoS2 quantum rings. 2018 , 97,	3
1002	Single-Molecule MoS2Polymer Interaction and Efficient Aqueous Exfoliation of MoS2 into Single Layer. 2018 , 122, 8262-8269	9
1001	Effect of lithium doping on the optical properties of monolayer MoS2. 2018 , 112, 121902	18
1000	Spotting the differences in two-dimensional materials - the Raman scattering perspective. 2018 , 47, 3217-3240	51
999	Strain Magnitude and Direction Effect on the Energy Band Structure of Hexagonal and Orthorhombic Monolayer MoS ₂ . 2018 , 17, 419-423	5
998	Stability of direct band gap under mechanical strains for monolayer MoS 2 , MoSe 2 , WS 2 and WSe 2. 2018 , 101, 44-49	42
997	Energy Band Gap Dependence of Valley Polarization of the Hexagonal Lattice. 2018 , 87, 024710	9
996	Tuning magnetism by strain and external electric field in zigzag Janus MoSSe nanoribbons. 2018 , 146, 240-247	34
995	Valley dynamics of intravalley and intervalley multiexcitonic states in monolayer WS2. 2018 , 97,	10
994	Valley assisted intervalley scattering in monolayer and bilayer WS2 revealed by time-resolved Kerr rotation spectroscopy. 2018 , 97,	8
993	Interplay of valley selection and helicity exchange of light in Raman scattering for graphene and MoS2. 2018 , 97,	17
992	Robust valley polarization of helium ion modified atomically thin MoS 2. 2018 , 5, 011007	44
991	Influence of dephasing and B/N doping on valley Seebeck effect in zigzag graphene nanoribbons. 2018 , 126, 183-189	13

990	Electrically tunable polarizer based on 2D orthorhombic ferrovalley materials. 2018 , 5, 011001	24
989	Magnetic field induced polarization enhancement in monolayers of tungsten dichalcogenides: effects of temperature. 2018 , 5, 015023	7
988	Growth of atomically thin MoS ₂ flakes on high- κ substrates by chemical vapor deposition. 2018 , 53, 4262-4273	3
987	Effect of UV Irradiation and Heat Treatment on the Surface Potential Distribution of Monolayer WS ₂ on SiO ₂ /Si and Au Substrates. 2018 , 5, 1701083	5
986	Group 6 transition metal dichalcogenide nanomaterials: synthesis, applications and future perspectives. 2018 , 3, 90-204	203
985	The magnetism of intrinsic structural defects in monolayer MoTe ₂ . 2018 , 735, 2363-2372	9
984	Laminated bilayer MoS with weak interlayer coupling. 2018 , 10, 1145-1152	12
983	Efficient exfoliation of layered materials by waste liquor. 2018 , 29, 095603	8
982	Valley-Selective Optical Stark Effect in Monolayer WS ₂ . 2018 , 37-57	5
981	Ultrasensitive electrochemical immunosensor for quantitative detection of HBeAg using Au@Pd/MoS@MWCNTs nanocomposite as enzyme-mimetic labels. 2018 , 102, 189-195	58
980	Electrical and optical transport properties of single layer WSe ₂ . 2018 , 97, 184-190	11
979	Intervalley Biexcitons in Monolayer MoS ₂ . 2018 , 27-36	
978	New Directions in Science Technology: Atomically-Thin Metal Dichalcogenides. 2018 , 181-250	1
977	Directional control of charge and valley currents in a graphene-based device. 2018 , 20, 28720-28725	17
976	The role of Anderson's rule in determining electronic, optical and transport properties of transition metal dichalcogenide heterostructures. 2018 , 20, 30351-30364	28
975	First principles study on 2H-1T' transition in MoS with copper. 2018 , 20, 26986-26994	19
974	Tulip-like MoS ₂ with a single sheet tapered structure anchored on N-doped graphene substrates via C-Mo bonds for superior sodium storage. 2018 , 6, 24433-24440	36
973	Achieving acoustic topological valley-Hall states by modulating the subwavelength honeycomb lattice. 2018 , 8, 16784	10

972	Zero-point motion and direct-indirect band-gap crossover in layered transition-metal dichalcogenides. 2018 , 98,	8
971	Electrically tunable valleytronics in quantum anomalous Hall insulating transition metal trihalides. 2018 , 98,	13
970	Spin response and collective modes in simple metal dichalcogenides. 2018 , 98,	4
969	Rational Control of Size and Photoluminescence of WS Quantum Dots for White Light-Emitting Diodes. 2018 , 10, 43824-43830	27
968	Introduction: 2d-Based Quantum Technologies. 2018 , 1-30	
967	Observation of bright exciton splitting in strained WSe ₂ monolayers. 2018 , 98,	3
966	A comprehensive review on piezoelectric energy harvesting technology: Materials, mechanisms, and applications. 2018 , 5, 041306	316
965	Induced valley splitting in monolayer MoS ₂ by an antiferromagnetic insulating CoO(111) substrate. 2018 , 98,	23
964	Optical spin pumping induced pseudomagnetic field in two-dimensional heterostructures. 2018 , 98,	6
963	Room-Temperature Valley Polarization and Coherence in Transition Metal Dichalcogenide-Graphene van der Waals Heterostructures. 2018 , 5, 5047-5054	23
962	A- and B-exciton photoluminescence intensity ratio as a measure of sample quality for transition metal dichalcogenide monolayers. 2018 , 6, 111106	45
961	Effects of spin-orbit coupling on the optical response of a material. 2018 , 98,	4
960	Coulomb interaction in monolayer transition-metal dichalcogenides. 2018 , 98,	51
959	Optoelectronics with single layer group-VIB transition metal dichalcogenides. 2018 , 7, 1589-1600	11
958	Recent Advances in Synthesis and Applications of 2D Junctions. 2018 , 14, e1801606	16
957	Intravalley Spin-Flip Relaxation Dynamics in Single-Layer WS. 2018 , 18, 6882-6891	50
956	Magneto-optical properties of bilayer transition metal dichalcogenides. 2018 , 98,	4
955	Rich many-body phase diagram of electrons and holes in doped monolayer transition metal dichalcogenides. 2018 , 98,	5

954	Nondegenerate chiral phonons in the Brillouin-zone center of 3D honeycomb superlattices. 2018 , 98,	11
953	Giant magnetoresistance control and nontrivial metallic state manipulation in a transition-metal dichalcogenide spin-valve using a gate voltage. 2018 , 30, 495801	1
952	Emergence of interfacial conduction and ferromagnetism in MnTe/InP. 2018 , 113, 181602	4
951	Ultrafast dynamics in van der Waals heterostructures. 2018 , 13, 994-1003	216
950	Physical Properties and Photovoltaic Application of Semiconducting PdBe ₂ Monolayer. 2018 , 8,	10
949	Resonance Profiles of Valley Polarization in Single-Layer MoS ₂ and MoSe ₂ . 2018 , 121, 167401	18
948	Defect-Induced Modification of Low-Lying Excitons and Valley Selectivity in Monolayer Transition Metal Dichalcogenides. 2018 , 121, 167402	69
947	Experimental Observation of Hidden Berry Curvature in Inversion-Symmetric Bulk 2H-WSe ₂ . 2018 , 121, 186401	22
946	Epitaxial Synthesis of Blue Phosphorene. 2018 , 14, e1804066	70
945	Phase transition and electronic structure evolution of MoTe ₂ induced by W substitution. 2018 , 98,	5
944	Valley-polarized magnetic state in hole-doped monolayers of transition-metal dichalcogenides. 2018 , 98,	10
943	Recent Advances in van der Waals Heterojunctions Based on Semiconducting Transition Metal Dichalcogenides. 2018 , 4, 1800270	17
942	Coulomb-bound four- and five-particle intervalley states in an atomically-thin semiconductor. <i>Nature Communications</i> , 2018 , 9, 3717	17.4 84
941	Light-Emitting Plexciton: Exploiting Plasmon-Exciton Interaction in the Intermediate Coupling Regime. 2018 , 12, 10393-10402	90
940	Revealing the biexciton and trion-exciton complexes in BN encapsulated WSe ₂ . <i>Nature Communications</i> , 2018 , 9, 3719	17.4 105
939	Interface excitons at lateral heterojunctions in monolayer semiconductors. 2018 , 98,	16
938	Observation of Novel Multifunctionalities in Monolayer CdO. 2018 , 1, 1800107	8
937	Armchair MoS nanoribbons turned into half metals through deposition of transition-metal and Si atomic chains. 2018 , 8, 13307	4

936	Crystal phase control in two-dimensional materials. 2018 , 61, 1227-1242	31
935	Electron scattering in two-dimensional semiconductors: Contrasting massive Dirac and Schrödinger behavior. 2018 , 98,	2
934	Valley-Selective Response of Nanostructures Coupled to 2D Transition-Metal Dichalcogenides. 2018 , 8, 1157	18
933	Perspectives on Thermoelectricity in Layered and 2D Materials. 2018 , 4, 1800248	47
932	Exciton physics and device application of two-dimensional transition metal dichalcogenide semiconductors. 2018 , 2,	267
931	High-Vacuum Particulate-Free Deposition of Wafer-Scale Mono-, Bi-, and Trilayer Molybdenum Disulfide with Superior Transport Properties. 2018 , 10, 33457-33463	5
930	Valley-selective directional emission from a transition-metal dichalcogenide monolayer mediated by a plasmonic nanoantenna. 2018 , 9, 780-788	17
929	Interlayer excitons in transition metal dichalcogenide heterostructures. 2018 , 98,	30
928	Tight-binding piezoelectric theory and electromechanical coupling correlations for transition metal dichalcogenide monolayers. 2018 , 98,	8
927	Spatial extent of the excited exciton states in WS ₂ monolayers from diamagnetic shifts. 2018 , 98,	23
926	Sensitive, reproducible, and stable 3D plasmonic hybrids with bilayer WS as nanospacer for SERS analysis. 2018 , 26, 21626-21641	37
925	Long-lived photoluminescence polarization of localized excitons in liquid exfoliated monolayer enriched WS. 2018 , 29, 335703	1
924	Optical absorption in disordered monolayer molybdenum disulfide. 2018 , 97,	9
923	Detuning dependence of high-order harmonic generation in monolayer transition metal dichalcogenides. 2018 , 57, 04FP11	
922	Homogeneous surface oxidation and triangle patterning of monolayer MoS ₂ by hydrogen peroxide. 2018 , 452, 451-456	13
921	Intervalley Scattering of Interlayer Excitons in a MoS/MoSe/MoS Heterostructure in High Magnetic Field. 2018 , 18, 3994-4000	19
920	Imaging of pure spin-valley diffusion current in WS-WSe heterostructures. 2018 , 360, 893-896	100
919	Composition-Tunable Synthesis of Large-Scale MoW S Alloys with Enhanced Photoluminescence. 2018 , 12, 6301-6309	36

918	Bandgap engineering of Janus MoSSe monolayer implemented by Se vacancy. 2018 , 152, 20-27	34
917	A comparison of temperature dependent photoluminescence and photo-catalytic properties of different MoS2 nanostructures. 2018 , 455, 379-391	18
916	Localized interlayer complexes in heterobilayer transition metal dichalcogenides. 2018 , 97,	18
915	Valley-dependent magnetoresistance in two-dimensional semiconductors. 2018 , 97,	5
914	Valley Manipulation by Optically Tuning the Magnetic Proximity Effect in WSe/CrI Heterostructures. 2018 , 18, 3823-3828	159
913	Controllable Growth and Formation Mechanisms of Dislocated WS Spirals. 2018 , 18, 3885-3892	62
912	Tunable Berry curvature and valley and spin Hall effect in bilayer MoS2. 2018 , 98,	47
911	Roadmap on finding chiral valleys: screening 2D materials for valleytronics. 2018 , 2, 032001	34
910	High-temperature driven inter-valley carrier transfer and significant fluorescence enhancement in multilayer WS. 2018 , 3, 598-605	11
909	Surface-Mediated Chemical Dissolution of Two-Dimensional Nanomaterials toward Hole Creation. 2018 , 30, 5108-5115	12
908	Evidence for line width and carrier screening effects on excitonic valley relaxation in 2D semiconductors. <i>Nature Communications</i> , 2018 , 9, 2598	17.4 33
907	A two-band spinful k.p Hamiltonian of monolayer MoS2 from a nine-band model based on group theory. 2018 , 120, 812-823	2
906	Spontaneous valley splitting and valley pseudospin field effect transistors of monolayer VAgPSe. 2018 , 10, 13986-13993	22
905	Biexcitonic optical Stark effects in monolayer molybdenum diselenide. 2018 , 14, 1092-1096	24
904	Valley Edelstein effect in monolayer transition-metal dichalcogenides. 2018 , 98,	9
903	Nanophotonics with 2D transition metal dichalcogenides [Invited]. 2018 , 26, 15972-15994	91
902	Spin- and valley-dependent negative magnetoresistance in a ferromagnetic MoS2 junction with a quantum well. 2018 , 98,	10
901	Effect of Phonons on Valley Depolarization in Monolayer WSe2. 2018 , 14, 766-773	9

900	Band structure of monolayer transition-metal dichalcogenides and topological properties of their nanoribbons: Next-nearest-neighbor hopping. 2018 , 98,	24
899	Various Structures of 2D Transition-Metal Dichalcogenides and Their Applications. 2018 , 2, 1800094	49
898	Large second harmonic generation in alloyed TMDs and boron nitride nanostructures. 2018 , 8, 10118	33
897	Tailoring MoS Valley-Polarized Photoluminescence with Super Chiral Near-Field. 2018 , 30, e1801908	66
896	Emerging photonic architectures in two-dimensional opto-electronics. 2018 , 47, 6824-6844	51
895	Electronic Origin of Optically-Induced Sub-Picosecond Lattice Dynamics in MoSe Monolayer. 2018 , 18, 4653-4658	14
894	Two-dimensional semiconductors in the regime of strong light-matter coupling. <i>Nature Communications</i> , 2018 , 9, 2695	17.4 157
893	Spectrally narrow exciton luminescence from monolayer MoS2 and MoSe2 exfoliated onto epitaxially grown hexagonal BN. 2018 , 113, 032106	17
892	BSA-caged metal clusters to exfoliate MoS nanosheets towards their hybridized functionalization. 2018 , 10, 10911-10917	12
891	First-principles simulation on thermoelectric properties of transition metal dichalcogenide monolayers. 2018 , 57, 06HE04	2
890	Anisotropic band splitting in monolayer NbSe2: implications for superconductivity and charge density wave. 2018 , 2,	28
889	Thermal Engineering in Low-Dimensional Quantum Devices: A Tutorial Review of Nonequilibrium Green's Function Methods. 2018 , 2, 1700343	12
888	Excitons, trions, and biexcitons in transition-metal dichalcogenides: Magnetic-field dependence. 2018 , 97,	28
887	Theory and Ab Initio Computation of the Anisotropic Light Emission in Monolayer Transition Metal Dichalcogenides. 2018 , 18, 3839-3843	25
886	Excitonic structure of the optical conductivity in MoS2 monolayers. 2018 , 97,	27
885	Valley-Selective Linear Dichroism in Layered Tin Sulfide. 2018 , 5, 3814-3819	18
884	The effect of carbon-ion irradiation on surface microstructure and photoluminescence properties in monolayer tungsten diselenide. 2018 , 435, 278-284	2
883	Light Emission Properties of 2D Transition Metal Dichalcogenides: Fundamentals and Applications. 2018 , 6, 1800420	53

882	Interfacially Bound Exciton State in a Hybrid Structure of Monolayer WS and InGaN Quantum Dots. 2018 , 18, 5640-5645	21
881	Transport properties of a few nanometer-thick TiSe ₂ films grown by molecular-beam epitaxy. 2018 , 113, 073101	14
880	Giant spin-valley polarization and multiple Hall effect in functionalized bismuth monolayers. 2018 , 3,	24
879	Electronic-dimensionality reduction of bulk MoS by hydrogen treatment. 2018 , 20, 23007-23012	5
878	Electrically controlled dc and ac transport in bilayer WSe ₂ . 2018 , 98,	5
877	Theoretical Background. 2018 , 3-21	
876	Coupling Single Photons from Discrete Quantum Emitters in WSe to Lithographically Defined Plasmonic Slot Waveguides. 2018 , 18, 6812-6819	31
875	Research Update: Recent progress on 2D materials beyond graphene: From ripples, defects, intercalation, and valley dynamics to straintronics and power dissipation. 2018 , 6, 080701	22
874	Tunable topological Nernst effect in two-dimensional transition-metal dichalcogenides. 2018 , 98,	5
873	Valleytronics: Opportunities, Challenges, and Paths Forward. 2018 , 14, e1801483	96
872	Femtosecond valley polarization and topological resonances in transition metal dichalcogenides. 2018 , 98,	24
871	Electroluminescent Devices Based on 2D Semiconducting Transition Metal Dichalcogenides. 2018 , 30, e1802687	53
870	Plasmonic Enhancement and Manipulation of Optical Nonlinearity in Monolayer Tungsten Disulfide. 2018 , 12, 1800188	34
869	Theory of superconductivity in hole-doped monolayer MoS ₂ . 2018 , 98,	7
868	Effects of a magnetic field on the optoelectronic properties of mono- and bi-layer transition metal dichalcogenides. 2018 , 30, 275502	1
867	Electronic and optical properties of single-layer MoS ₂ . 2018 , 13, 1	10
866	SiC/MoS ₂ layered heterostructures: Promising photocatalysts revealed by a first-principles study. 2018 , 216, 64-71	34
865	Monolayer Transition Metal Dichalcogenides as Light Sources. 2018 , 30, e1707627	46

864	Local carrier distribution imaging on few-layer MoS2 exfoliated on SiO2 by scanning nonlinear dielectric microscopy. 2018 , 112, 243102	4
863	Valley Polarization in Janus Single-Layer MoSSe via Magnetic Doping. 2018 , 9, 3612-3617	113
862	Interfacial charge transfer in WS2 monolayer/CsPbBr3 microplate heterostructure. 2018 , 13, 1	6
861	Environmental engineering of transition metal dichalcogenide optoelectronics. 2018 , 13, 1	8
860	THz-induced thermoelectric and thermal transport in atomic monolayers. 2018 , 473-509	
859	Valley Physics in Non-Hermitian Artificial Acoustic Boron Nitride. 2018 , 120, 246601	46
858	Valley-selective circular dichroism and high carrier mobility of graphene-like BCN. 2018 , 10, 13179-13186	22
857	Anisotropic exciton transport in transition-metal dichalcogenides. 2018 , 97,	7
856	Surface Engineering of Two-Dimensional Materials. 2019 , 5, 6-23	15
855	Unraveling biexciton and excitonic excited states from defect bound states in monolayer MoS2. 2019 , 463, 52-57	34
854	Multiple-peak resonance of optical second harmonic generation arising from band nesting in monolayer transition metal dichalcogenides TX2 on SiO2/Si(001) substrates (T=Mo,W;X=S,Se). 2019 , 100,	9
853	Two-dimensional materials. 2019 , 165-189	
852	Distinctive optoelectronic properties of nanostructured MoS2 bilayers. 2019 , 100,	1
851	Valleytronics in transition metal dichalcogenides materials. 2019 , 12, 2695-2711	60
850	Retracted Article: Physics of excitons and their transport in two dimensional transition metal dichalcogenide semiconductors.. 2019 , 9, 25439-25461	16
849	Tunable topological valley transport in two-dimensional photonic crystals. 2019 , 21, 093020	10
848	Two-Dimensional Transition Metal Dichalcogenides: An Overview. 2019 , 1-27	2
847	Ultracompact Photodetection in Atomically Thin MoSe2. 2019 , 6, 1902-1909	10

846	Simulation of Transition Metal Dichalcogenides. 2019 , 135-172	1
845	Valley-dependent exciton fine structure and Autler-Townes doublets from Berry phases in monolayer MoSe. 2019 , 18, 1065-1070	18
844	Supercontinuum second harmonic generation spectroscopy of atomically thin semiconductors. 2019 , 90, 083102	8
843	Band evolution of two-dimensional transition metal dichalcogenides under electric fields. 2019 , 115, 083104	4
842	Two-dimensional excitons in monolayer transition metal dichalcogenides from radial equation and variational calculations. 2019 , 31, 105702	7
841	Reversible direct-indirect band transition in alloying TMDs heterostructures via band engineering. 2019 , 31, 435503	2
840	Strain Engineering of the Berry Curvature Dipole and Valley Magnetization in Monolayer MoS ₂ . 2019 , 123, 036806	50
839	Achieving giant spin-orbit splitting in conduction band of monolayer WS ₂ via n-p co-doping. 2019 , 9, 075304	3
838	Interband transitions in narrow-gap carbon nanotubes and graphene nanoribbons. 2019 , 99-117	1
837	A review on synthesis of graphene, h-BN and MoS ₂ for energy storage applications: Recent progress and perspectives. 2019 , 12, 2655-2694	156
836	Gate Tunable Dark Trions in Monolayer WSe ₂ . 2019 , 123, 027401	49
835	Experimental observation of a negative grey trion in an electron-rich WSe monolayer. 2019 , 31, 415701	8
834	Inversion Symmetry Breaking Induced Valley Hall Effect in Multilayer WSe. 2019 , 13, 9325-9331	10
833	Recent Advances in Ambipolar Transistors for Functional Applications. 2019 , 29, 1902105	86
832	Lateral Bilayer MoS ₂ /WS ₂ Heterostructure Photodetectors with High Responsivity and Detectivity. 2019 , 7, 1900815	39
831	Interlayer Topological Transport and Devices Based on Layer Pseudospins in Photonic Valley-Hall Phases. 2019 , 7, 1900872	12
830	Nonmetal-Atom-Doping-Induced Valley Polarization in Single-Layer TlO. 2019 , 10, 4535-4541	31
829	Hyperfine interaction in atomically thin transition metal dichalcogenides. 2019 , 1, 2624-2632	10

828	Strain-Tailored Valley Polarization and Magnetic Anisotropy in Two-Dimensional 2H-VS ₂ /Cr ₂ C Heterostructures. 2019 , 123, 17440-17448	20
827	Preserving the Emission Lifetime and Efficiency of a Monolayer Semiconductor upon Transfer. 2019 , 7, 1900351	16
826	Localized Intervalley Defect Excitons as Single-Photon Emitters in WSe ₂ . 2019 , 123, 146401	44
825	Electronic transmission in the lateral heterostructure of semiconducting and metallic transition-metal dichalcogenide monolayers. 2019 , 126, 123901	3
824	Valley notch filter in a graphene strain superlattice: Green's function and machine learning approach. 2019 , 100,	11
823	Routing a Chiral Raman Signal Based on Spin-Orbit Interaction of Light. 2019 , 123, 183903	26
822	Ultrashort Pulse Fiber Laser Generation Using Molybdenum Disulfide and Tungsten Disulfide Saturable Absorber. 2019 , 177-197	
821	Nonlocal dielectric function and nested dark excitons in MoS ₂ . 2019 , 3,	3
820	Excitons and Trions in Bilayer van der Waals Heterostructures. 2019 , 61, 2218-2223	6
819	Electronic structure of exfoliated millimeter-sized monolayer WSe ₂ on silicon wafer. 2019 , 12, 3095-3100	9
818	Two-dimensional spin-valley locking spin valve. 2019 , 100,	25
817	Valley polarization reversal and spin ferromagnetism and antiferromagnetism in quantum dots of the topological insulator monolayer bismuthene on SiC. 2019 , 100,	0
816	Charge-Accumulation Effect in Transition Metal Dichalcogenide Heterobilayers. 2019 , 15, e1902424	15
815	Identification of spin, valley and moiré quasi-angular momentum of interlayer excitons. 2019 , 15, 1140-1144	55
814	Optical selection rule of monolayer transition metal dichalcogenide by an optical vortex. 2019 , 1220, 012056	1
813	Prediction of ferroelectricity-driven Berry curvature enabling charge- and spin-controllable photocurrent in tin telluride monolayers. <i>Nature Communications</i> , 2019 , 10, 3965	17.4 18
812	Direct Observation of Gate-Tunable Dark Trions in Monolayer WSe. 2019 , 19, 6886-6893	33
811	Long valley lifetime of dark excitons in single-layer WSe. <i>Nature Communications</i> , 2019 , 10, 4047	17.4 27

810	Steady-state superconductivity in electronic materials with repulsive interactions. 2019 , 100,		6
809	Absence of Interlayer Tunnel Coupling of K-Valley Electrons in Bilayer MoS ₂ . 2019 , 123, 117702		16
808	Recent Advances in Graphene-like 2D Materials for Spintronics Applications. 2019 , 31, 8260-8285		60
807	Phase coherent transport in bilayer and trilayer MoS ₂ . 2019 , 100,		2
806	Revealing exciton masses and dielectric properties of monolayer semiconductors with high magnetic fields. <i>Nature Communications</i> , 2019 , 10, 4172	17.4	97
805	Giant valley splitting in monolayer WS ₂ by magnetic proximity effect. <i>Nature Communications</i> , 2019 , 10, 4163	17.4	76
804	Spin polarization and tunable valley degeneracy in a MoS monolayer via proximity coupling to a CrO substrate. 2019 , 11, 19536-19542		9
803	Enhancing and controlling valley magnetic response in MoS ₂ /WS ₂ heterostructures by all-optical route. <i>Nature Communications</i> , 2019 , 10, 4226	17.4	20
802	Conditions for Enhancing Chiral Nanophotonics near Achiral Nanoparticles. 2019 , 6, 2583-2589		17
801	Magnetic Proximity Coupling of Quantum Emitters in WSe ₂ to van der Waals Ferromagnets. 2019 , 19, 7301-7308		12
800	Diffusion dynamics of valley excitons by transient grating spectroscopy in monolayer WSe ₂ . 2019 , 115, 131902		14
799	Linearly Polarized Luminescence of Atomically Thin MoS ₂ Semiconductor Nanocrystals. 2019 , 13, 13006-13014		14
798	Machine-Learning Analysis to Predict the Exciton Valley Polarization Landscape of 2D Semiconductors. 2019 , 13, 12687-12693		10
797	Geometric band properties in strained monolayer transition metal dichalcogenides using simple band structures. 2019 , 126, 115701		4
796	Exciton states and absorption spectra in freestanding monolayer transition metal dichalcogenides: A variationally optimized diagonalization method. 2019 , 100,		4
795	Transition Metal Dichalcogenides Properties and Applications. 2019 , 333-396		7
794	Influence of interlayer interactions on the relaxation dynamics of excitons in ultrathin MoS ₂ . 2019 , 1, 1186-1192		0
793	Pressure effect on the electronic, structural, and vibrational properties of layered 2H-MoTe ₂ . 2019 , 99,		11

792	Unraveling the Defect Emission and Exciton-Lattice Interaction in Bilayer WS ₂ . 2019 , 123, 4433-4440	7
791	Valley polarization and ferroelectricity in a two-dimensional GaAsC monolayer. 2019 , 21, 3954-3959	6
790	Effect of layer and stacking sequence in simultaneously grown 2H and 3R WS atomic layers. 2019 , 30, 345203	7
789	Electrically tunable physical properties of two-dimensional materials. 2019 , 27, 99-119	22
788	Transition-metal doping/adsorption induced valley polarization in Janus WSSe: First-principles calculations. 2019 , 490, 172-177	19
787	Biaxial strain effect on the electronic structure and valleytronic properties of a MoS/CoO(111) heterostructure. 2019 , 21, 15151-15156	3
786	Quasi-2D Transport and Weak Antilocalization Effect in Few-layered VSe. 2019 , 19, 4551-4559	26
785	Tunable valley splitting and an anomalous valley Hall effect in hole-doped WS by proximity coupling with a ferromagnetic MnO monolayer. 2019 , 11, 13567-13575	23
784	Controlling valley splitting and polarization of dark- and bi-excitons in monolayer WS ₂ by a tilted magnetic field. 2019 , 6, 045014	5
783	Charge-Induced Lattice Compression in Monolayer MoS ₂ . 2019 , 123, 17943-17950	8
782	Emerging photoluminescence from the dark-exciton phonon replica in monolayer WSe. <i>Nature Communications</i> , 2019 , 10, 2469	17.4 57
781	Prediction of directional magnetic-exchange coupling in Mn doped InSe monolayer. 2019 , 14, 102416	0
780	A strain tunable single-layer MoS ₂ photodetector. 2019 , 27, 8-13	91
779	Anomalous Electron Dynamics Induced through the Valley Magnetic Domain: A Pathway to Valleytronic Current Processing. 2019 , 19, 4166-4173	4
778	Spintronics of Hybrid Organic-Inorganic Perovskites: Miraculous Basis of Integrated Optoelectronic Devices. 2019 , 7, 1900350	33
777	Hydrothermal growth of MoSe ₂ nanoflowers for photo- and humidity sensor applications. 2019 , 295, 160-168	41
776	A high-performance MoS ₂ synaptic device with floating gate engineering for neuromorphic computing. 2019 , 6, 045008	44
775	Control of spin diffusion and suppression of the Hanle oscillation by the coexistence of spin and valley Hall effects in Dirac materials. 2019 , 99,	2

774	Valley switch effect based on monolayer WSe ₂ modulated by circularly polarized light and valley Zeeman field. 2019 , 52, 335301	9
773	Computational prediction and characterization of two-dimensional pentagonal arsenopyrite FeAsS. 2019 , 166, 105-110	5
772	Detection of both optical polarization and coherence transfers to excitonic valley states in CVD-grown monolayer MoS ₂ . 2019 , 12, 063005	4
771	Switch effect and 0- π transition in Ising superconductor Josephson junctions. 2019 , 99,	4
770	Out-of-plane piezoresponse of monolayer MoS ₂ on plastic substrates enabled by highly uniform and layer-controllable CVD. 2019 , 487, 1356-1361	24
769	Recent Advances in Quantum Effects of 2D Materials. 2019 , 2, 1800111	19
768	Sulfur-deficient MoS _{2-x} promoted lithium polysulfides conversion in lithium-sulfur battery: A first-principles study. 2019 , 487, 452-463	36
767	High-Performance Monolayer MoS ₂ Films at the Wafer Scale by Two-Step Growth. 2019 , 29, 1901070	24
766	Strongly distinct electrical response between circular and valley polarization in bilayer transition metal dichalcogenides. 2019 , 99,	10
765	Pulsed thermal deposition of binary and ternary transition metal dichalcogenide monolayers and heterostructures. 2019 , 114, 162101	9
764	Valleytronic properties of monolayer WSe ₂ in external magnetic field. 2019 , 9, 045222	5
763	Direct observation of valley-coupled topological current in MoS. 2019 , 5, eaau6478	22
762	Determination of the waist location for the Gaussian beam based on second harmonic generation of monolayer MoS ₂ . 2019 , 490, 022059	0
761	Anomalous rotation of the linearly polarized emission of bright excitons in strained WSe ₂ monolayers under high magnetic fields. 2019 , 99,	2
760	Valley polarization of exciton-polaritons in monolayer WSe in a tunable microcavity. 2019 , 11, 9574-9579	10
759	Dark-exciton valley dynamics in transition metal dichalcogenide alloy monolayers. 2019 , 9, 4575	16
758	Proposed Valley Valve from Four-Channel Valley Manipulation. 2019 , 11,	3
757	Tight-binding modeling of excitonic response in van der Waals stacked 2D semiconductors. 2019 , 4, 969-974	9

756	Tailoring Photoluminescence from MoS ₂ Monolayers by Mie-Resonant Metasurfaces. 2019 , 6, 1002-1009	44
755	Optical orientation with linearly polarized light in transition metal dichalcogenides. 2019 , 99,	10
754	Gate-tunable non-volatile photomemory effect in MoS ₂ transistors. 2019 , 6, 025036	8
753	Geometry and electronic structure of monolayer, bilayer, and multilayer Janus WSSe. 2019 , 99,	55
752	Detection of thermodynamic "valley noise" in monolayer semiconductors: Access to intrinsic valley relaxation time scales. 2019 , 5, eaau4899	10
751	Optical initialization of a single spin-valley in charged WSe quantum dots. 2019 , 14, 426-431	26
750	Valley current and spin-valley filter in topological domain wall. 2019 , 125, 123904	8
749	Zeeman-Induced Valley-Sensitive Photocurrent in Monolayer MoS ₂ . 2019 , 122, 127401	14
748	Spectrum of exciton states in monolayer transition metal dichalcogenides: Angular momentum and Landau levels. 2019 , 99,	8
747	Chiral 2D Perovskites with a High Degree of Circularly Polarized Photoluminescence. 2019 , 13, 3659-3665	161
746	A facile synthetic route to tungsten diselenide using a new precursor containing a long alkyl chain cation for multifunctional electronic and optoelectronic applications.. 2019 , 9, 6169-6176	1
745	Two-dimensional honeycomb-kagome TaS ₂ : a promising single-spin Dirac fermion and quantum anomalous hall insulator with half-metallic edge states. 2019 , 11, 5666-5673	14
744	A Review of Atomic Scale Characterization Techniques of Molybdenum Disulfide (MoS ₂). 2019 , 48, 3451-3458	7
743	Finite-momentum exciton landscape in mono- and bilayer transition metal dichalcogenides. 2019 , 6, 035003	51
742	Modeling of Nanosheets Based on Transition-Metal Dichalcogenides for Spintronic Applications: Insights From First-Principles. 2019 , 207-218	2
741	Orbital magneto-optical response of periodic insulators from first principles. 2019 , 5,	3
740	Valley Hall Effect and Magnetic Moment in Magnetized Silicene. 2019 , 32, 2947-2957	17
739	Surface-diffusion-limited growth of atomically thin WS ₂ crystals from core-shell nuclei. 2019 , 11, 8706-8714	11

738	Magnetoelectrically Controlled Valley Filter and Valley Valve in Bilayer Graphene. 2019 , 11,		19
737	Characterization of atomic defects on the photoluminescence in two-dimensional materials using transmission electron microscope. 2019 , 1, 85-97		32
736	Enhancing functionalities of atomically thin semiconductors with plasmonic nanostructures. 2019 , 8, 577-598		17
735	Valley splitting in the van der Waals heterostructure WSe ₂ /CrI ₃ : The role of atom superposition. 2019 , 99,		47
734	Room-temperature valley coherence in a polaritonic system. <i>Nature Communications</i> , 2019 , 10, 1513	17.4	20
733	Nonlinear optics in the electron-hole continuum in 2D semiconductors: two-photon transition, second harmonic generation and valley current injection. 2019 , 64, 1036-1043		3
732	Beating the exclusion rule against the coexistence of robust luminescence and ferromagnetism in chalcogenide monolayers. <i>Nature Communications</i> , 2019 , 10, 1584	17.4	28
731	Phonon modes and photonic excitation transitions of MoS ₂ induced by top-deposited graphene revealed by Raman spectroscopy and photoluminescence. 2019 , 114, 133103		8
730	Engineering Valley Polarization of Monolayer WS ₂ : A Physical Doping Approach. 2019 , 15, e1805503		30
729	Electronic properties of candidate type-II Weyl semimetal WTe ₂ . A review perspective. 2019 , 1, 014003		14
728	Recent Progress on Irradiation-Induced Defect Engineering of Two-Dimensional 2H-MoS ₂ Few Layers. 2019 , 9, 678		21
727	First-principles study of square phase MX ₂ and Janus MXY (M=Mo, W; X, Y=S, Se, Te) transition metal dichalcogenide monolayers under biaxial strain. 2019 , 110, 134-139		27
726	A family of high-temperature ferromagnetic monolayers with locked spin-dichroism-mobility anisotropy: MnNX and CrCX (X = Cl, Br, I; C = S, Se, Te). 2019 , 64, 293-300		50
725	Tunable Valley Polarized Plasmon-Exciton Polaritons in Two-Dimensional Semiconductors. 2019 , 13, 1333-1341		22
724	Intrinsic valley Hall transport in atomically thin MoS ₂ . <i>Nature Communications</i> , 2019 , 10, 611	17.4	46
723	Coherence and Density Dynamics of Excitons in a Single-Layer MoS ₂ Reaching the Homogeneous Limit. 2019 , 13, 3500-3511		16
722	Exciton binding energy and hydrogenic Rydberg series in layered ReS ₂ . 2019 , 9, 1578		21
721	Exfoliation of transition-metal dichalcogenides using ATP in aqueous solution. 2019 , 55, 2972-2975		8

720	Recent advancement in the performance of solar cells by incorporating transition metal dichalcogenides as counter electrode and photoabsorber. 2019 , 43, 3058-3079	16
719	Artificial control of in-plane anisotropic photoelectricity in monolayer MoS ₂ . 2019 , 15, 203-211	27
718	A synoptic review of MoS ₂ : Synthesis to applications. 2019 , 128, 274-297	120
717	Separation of valley excitons in a MoS ₂ monolayer using a subwavelength asymmetric groove array. 2019 , 13, 180-184	86
716	Size dependence in two-dimensional lateral heterostructures of transition metal dichalcogenides. 2019 , 7, 3837-3842	5
715	Spin-orbit coupling induced valley Hall effects in transition-metal dichalcogenides. 2019 , 2,	27
714	Tuning the Fröhlich exciton-phonon scattering in monolayer MoS. <i>Nature Communications</i> , 2019 , 10, 807	17.4 43
713	An Experimental Setup for Combined In-Vacuo Raman Spectroscopy and Cavity-Interferometry Measurements on TMDC Nano-resonators. 2019 , 59, 349-359	3
712	Floquet spectrum and two-terminal conductance of a transition-metal dichalcogenide ribbon under a circularly polarized laser field. 2019 , 99,	8
711	Thermal expansion coefficient and phonon dynamics in coexisting allotropes of monolayer WS ₂ probed by Raman scattering. 2019 , 31, 505403	6
710	Symmetry breaking of in-plane Raman scattering by elliptically polarized light in MoS ₂ . 2019 , 100,	2
709	Single-layer LaBr ₂ : Two-dimensional valleytronic semiconductor with spontaneous spin and valley polarizations. 2019 , 115, 261605	32
708	Tuning valley polarization in two-dimensional ferromagnetic heterostructures. 2019 , 7, 14932-14937	3
707	Rich diversity of crystallographic phase formation in 2D Re _x Mo _{1-x} S ₂ (x). 2019 , 126, 224302	0
706	Predicted Janus SnSSe monolayer: a comprehensive first-principles study. 2019 , 21, 24620-24628	68
705	Ultrafast Carrier Dynamics of Monolayer WS ₂ via Broad-Band Time-Resolved Terahertz Spectroscopy. 2019 , 123, 30676-30683	7
704	Momentum-Dark Intervalley Exciton in Monolayer Tungsten Diselenide Brightened Chiral Phonon. 2019 , 13, 14107-14113	25
703	Optical injection of spin current into a zigzag nanoribbon of monolayer MoS ₂ with antiferromagnetic Kekule distortion. 2019 , 100,	1

702	Large and controllable spin-valley splitting in two-dimensional WS ₂ /hBN heterostructure. 2019 , 100,	21
701	80% Valley Polarization of Free Carriers in Singly Oriented Single-Layer WS ₂ on Au(111). 2019 , 123, 236802	14
700	Layer and orbital interference effects in photoemission from transition metal dichalcogenides. 2019 , 100,	7
699	Emergence of valley selectivity in monolayer tin(II) sulphide. 2019 , 1, 4863-4869	1
698	Photoluminescence of PdS and PdSe quantum dots.. 2019 , 9, 38077-38084	8
697	Electrical Control of Circular Photogalvanic Spin-Valley Photocurrent in a Monolayer Semiconductor. 2019 , 11, 3334-3341	15
696	Polarization switching and electrical control of interlayer excitons in two-dimensional van der Waals heterostructures. 2019 , 13, 131-136	134
695	Towards efficient photon management in nanostructured solar cells: Role of 2D layered transition metal dichalcogenide semiconductors. 2019 , 192, 16-23	17
694	2D MoS ₂ -Based Nanomaterials for Therapeutic, Bioimaging, and Biosensing Applications. 2019 , 15, e1803706	159
693	Nonlinear optical susceptibility of atomically thin WX ₂ crystals. 2019 , 88, 30-38	7
692	Symmetry-Controlled Electron-Phonon Interactions in van der Waals Heterostructures. 2019 , 13, 552-559	10
691	Chiral phonons in two-dimensional materials. 2019 , 6, 012002	17
690	Theory of optically induced Föster coupling in van der Waals coupled heterostructures. 2019 , 99,	11
689	Preliminary characterization of the thickness of bulk MoS ₂ layer by the colour. 2019 , 181, 898-905	
688	Electrical Control of Magnetic Behavior and Valley Polarization of Monolayer Antiferromagnetic MnPSe ₃ on an Insulating Ferroelectric Substrate from First Principles. 2019 , 11,	21
687	Raman Spectroscopy of Isotropic Two-Dimensional Materials Beyond Graphene. 2019 , 29-52	1
686	Probing interlayer excitons in a vertical van der Waals p-n junction using a scanning probe microscopy technique. 2019 , 31, 114001	3
685	Nonlinear Nanophotonics With 2D Transition Metal Dichalcogenides. 2019 , 305-318	1

684	Potential 2D Materials with Phase Transitions: Structure, Synthesis, and Device Applications. 2019 , 31, e1804682	38
683	Pressure control of charge and spin currents in graphene/MoS ₂ heterostructures. 2019 , 473, 291-295	5
682	Facile access to shape-controlled growth of WS ₂ monolayer via environment-friendly method. 2019 , 6, 015007	10
681	Entanglement of single-photons and chiral phonons in atomically thin WSe ₂ . 2019 , 15, 221-227	38
680	Electron-phonon coupling in single-layer MoS ₂ . 2019 , 681, 64-69	6
679	Four Terahertz Plasmon Modes of Hole Gas in Monolayer MoS ₂ . 2019 , 14, 839-843	1
678	Electronic properties of Janus MoSSe nanotubes. 2019 , 156, 315-320	24
677	Orbital, spin and valley contributions to Zeeman splitting of excitonic resonances in MoSe ₂ , WSe ₂ and WS ₂ Monolayers. 2019 , 6, 015001	46
676	Ultrafast Photophysics of 2D Semiconductors and Related Heterostructures. 2020 , 2, 28-42	17
675	Electronic and magnetic properties of 3d transition metal doped MoSe ₂ monolayer. 2020 , 116, 113745	15
674	Optical Properties and Light-Emission Device Applications of 2-D Layered Semiconductors. 2020 , 108, 676-703	8
673	Biaxial strain tuning of interlayer excitons in bilayer MoS ₂ . 2020 , 3, 015003	11
672	The Optical Properties and Plasmonics of Anisotropic 2D Materials. 2020 , 8, 1900996	39
671	Structural, electronic and vibrational properties of ultra-thin octahedrally coordinated structure of EuO ₂ . 2020 , 493, 165668	1
670	Nearly 90% Circularly Polarized Emission in Monolayer WS ₂ Single Crystals by Chemical Vapor Deposition. 2020 , 14, 1350-1359	23
669	Magnetism and Distortions in Two-Dimensional Transition-Metal Dioxides: On the Quest for Intrinsic Magnetic Semiconductor Layers. 2020 , 124, 2634-2643	5
668	Theory of coherent pump-probe spectroscopy in monolayer transition metal dichalcogenides. 2020 , 7, 015021	18
667	Valleytronics in 2D semiconductors. 2020 , 281-302	1

666	Enhanced valley polarization at valence/conduction band in transition-metal-doped WTe ₂ under strain force. 2020 , 504, 144367	9
665	Retro-normal reflection and specular Andreev reflection in a transition metal dichalcogenides superconducting heterojunction. 2020 , 32, 085302	0
664	High optical quality of MoS ₂ monolayers grown by chemical vapor deposition. 2020 , 7, 015011	40
663	Control of spin and valley Hall effects in monolayer transition metal dichalcogenides by magnetic proximity effect. 2020 , 127, 023903	2
662	First-principles calculations of charge carrier mobility and conductivity in bulk semiconductors and two-dimensional materials. 2020 , 83, 036501	71
661	Effect of valley, spin, and band nesting on the electronic properties of gated quantum dots in a single layer of transition metal dichalcogenides. 2020 , 101,	9
660	Electronic and magnetic properties of the Janus MoSSe/WSSe superlattice nanoribbon: a first-principles study. 2020 , 22, 2498-2508	5
659	Progress in BiFeO ₃ -based heterostructures: materials, properties and applications. 2020 , 12, 477-523	59
658	Robust Room Temperature Valley Hall Effect of Interlayer Excitons. 2020 , 20, 1345-1351	23
657	Magnetic field mixing and splitting of bright and dark excitons in monolayer MoSe ₂ . 2020 , 7, 015017	24
656	Chiral Coupling of Valley Excitons and Light through Photonic Spin-Orbit Interactions. 2020 , 8, 1901233	24
655	Molecular beam epitaxy fabrication of two-dimensional materials. 2020 , 103-134	1
654	Effects of interlayer interactions on the nanoindentation response of freely suspended multilayer gallium telluride. 2020 , 31, 165706	6
653	Continuous Wave Sum Frequency Generation and Imaging of Monolayer and Heterobilayer Two-Dimensional Semiconductors. 2020 , 14, 708-714	22
652	Temperature dependence of photoluminescence lifetime of atomically-thin WSe ₂ layer. 2020 , 31, 135002	0
651	Role of graphene and transition metal dichalcogenides as hole transport layer and counter electrode in solar cells. 2020 , 44, 1464-1487	14
650	Study on ultrasound-assisted liquid-phase exfoliation for preparing graphene-like molybdenum disulfide nanosheets. 2020 , 63, 104923	19
649	Scalable Functionalization of Optical Fibers Using Atomically Thin Semiconductors. 2020 , 32, e2003826	11

648	Spin-current and pseudo-spin density response functions in graphene. 2020 , 146, 106678	
647	Interlayer exciton valleytronics in bilayer heterostructures interfaced with a phase gradient metasurface. 2020 , 117, 121101	7
646	Resonant amplification of the inverse Faraday effect magnetization dynamics of time reversal symmetric insulators. 2020 , 102,	2
645	Efficient Frequency Mixing of Guided Surface Waves by Atomically Thin Nonlinear Crystals. 2020 , 20, 7956-7963	6
644	Tunable valley splitting and anomalous valley Hall effect in VTe ₂ /Ga ₂ S ₃ heterostructures. 2020 , 8, 14895-14906	
643	Plasmonic-Induced Luminescence of MoSe ₂ Monolayers in a Scanning Tunneling Microscope. 2020 , 7, 3061-3070	4
642	Room-temperature valleytronic transistor. 2020 , 15, 743-749	33
641	Vacancies on 2D transition metal dichalcogenides elicit ferroptotic cell death. <i>Nature Communications</i> , 2020 , 11, 3484	17.4 37
640	Light-matter coupling and non-equilibrium dynamics of exchange-split trions in monolayer WS ₂ . 2020 , 153, 034706	0
639	Valley caloritronics in a photodriven heterojunction of Dirac materials. 2020 , 102,	4
638	Complementary growth of 2D transition metal dichalcogenide semiconductors on metal oxide interfaces. 2020 , 117, 213104	1
637	Valley excitons: From monolayer semiconductors to moiré superlattices. 2020 , 105, 269-303	
636	Formation of Coherent 1H-1T Heterostructures in Single-Layer MoS ₂ on Au(111). 2020 ,	8
635	Shear strain bandgap tuning of monolayer MoS ₂ . 2020 , 117, 223102	1
634	Excitons in planar quantum wells based on transition metal dichalcogenides. 2020 , 102,	4
633	Trion fine structure and anomalous Hall effect in monolayer transition metal dichalcogenides. 2020 , 102,	2
632	Polar vibrational and dielectric properties of monolayer transition metal dichalcogenides from macroscopic equations. 2020 , 10, 045316	1
631	An Excitonic Perspective on Low-Dimensional Semiconductors for Photocatalysis. 2020 , 142, 14007-14022	58

630	Recent advance and prospectives of electrocatalysts based on transition metal selenides for efficient water splitting. 2020 , 78, 105234		81
629	Robust Interlayer Coupling in Two-Dimensional Perovskite/Monolayer Transition Metal Dichalcogenide Heterostructures. 2020 , 14, 10258-10264		28
628	Magneto-optic effect of two-dimensional materials and related applications. 2020 , 1, 298-310		11
627	A Single Chiral Nanoparticle Induced Valley Polarization Enhancement. 2020 , 16, e2003005		9
626	The optical properties of few-layer InSe. 2020 , 128, 060901		10
625	Measurement of the spin-forbidden dark excitons in MoS and MoSe monolayers. <i>Nature Communications</i> , 2020 , 11, 4037	17.4	35
624	Nanoscale characterization of unintentional doping of atomically thin layered semiconductors by scanning nonlinear dielectric microscopy. 2020 , 128, 074301		0
623	Manipulation of Valley Pseudospin by Selective Spin Injection in Chiral Two-Dimensional Perovskite/Monolayer Transition Metal Dichalcogenide Heterostructures. 2020 , 14, 15154-15160		13
622	Observation of site-controlled localized charged excitons in CrI/WSe heterostructures. <i>Nature Communications</i> , 2020 , 11, 5502	17.4	6
621	Exciton-to-trion conversion as a control mechanism for valley polarization in room-temperature monolayer WS. 2020 , 10, 17389		10
620	Promising valleytronic materials with strong spin-valley coupling in two-dimensional MN ₂ X ₂ (M = Mo, W; X = F, H). 2020 , 117, 172405		4
619	Atomically Asymmetric Inversion Scales up to Mesoscopic Single-Crystal Monolayer Flakes. 2020 , 14, 13834-13840		5
618	Phosphorus Pentamers: Floating Nanoflowers form a 2D Network. 2020 , 30, 2004531		5
617	Theory of the Coherent Response of Magneto-Excitons and Magneto-Biexcitons in Monolayer Transition Metal Dichalcogenides. 2020 , 102,		6
616	Two-Dimensional Valleytronics in Single-Layer t-ZrNY (Y = Cl, Br) Predicted from First Principles. 2020 , 124, 20598-20604		2
615	Integrated single photon emitters. 2020 , 2, 031701		14
614	Tailoring geometric phases of two-dimensional functional materials under light: a brief review. 2020 , 11, 191-206		1
613	Routing valley exciton emission of a WS monolayer via delocalized Bloch modes of in-plane inversion-symmetry-broken photonic crystal slabs. 2020 , 9, 148		25

612	Controlled giant magnetoresistance and spin-valley transport in an asymmetrical MoS ₂ tunnel junction. 2020 , 117, 102401	3
611	Excitonic Lasers in Atomically Thin 2D Semiconductors. 2020 , 2, 1328-1342	4
610	Large Photoluminescence Enhancement by an Out-of-Plane Magnetic Field in Exfoliated WS ₂ Flakes. 2020 , 37, 087801	5
609	Coupled spin and valley polarization in monolayer HfN ₂ and valley-contrasting physics at the HfN ₂ /WSe ₂ interface. 2020 , 102,	18
608	Giant intrinsic circular dichroism of enantiomorphic flat Chern bands and flatband devices. 2020 , 102,	5
607	Trion-to-exciton upconversion dynamics in monolayer WSe ₂ . 2020 , 117, 083107	3
606	Anisotropic properties of monolayer 2D materials: An overview from the C2DB database. 2020 , 128, 105101	6
605	Trion induced photoluminescence of a doped MoS monolayer. 2020 , 153, 044132	11
604	2D Nanomaterial-Based Surface Plasmon Resonance Sensors for Biosensing Applications. 2020 , 11,	24
603	The Magnetic Proximity Effect Induced Large Valley Splitting in 2D InSe/FeI Heterostructures. 2020 , 10,	2
602	Probing stacking configurations in a few layered MoS by low frequency Raman spectroscopy. 2020 , 10, 21227	8
601	Theory of moiré-localized excitons in transition metal dichalcogenide heterobilayers. 2020 , 102,	6
600	Laser-induced topological s-wave superconductivity in bilayer transition metal dichalcogenides. 2020 , 102,	3
599	Three-orbital continuous model for 1H-type metallic transition metal dichalcogenide monolayers. 2020 , 102,	0
598	Gate-controlled spin-valley-layer locking in bilayer transition-metal dichalcogenides. 2020 , 12, 22281-22288	1
597	Chiral phonons in the indirect optical transition of a MoS ₂ /WS ₂ heterostructure. 2020 , 102,	6
596	Mechanisms and Applications of Steady-State Photoluminescence Spectroscopy in Two-Dimensional Transition-Metal Dichalcogenides. 2020 , 14, 14579-14604	20
595	Coherent quantum transport in a transitionmetal dichalcogenides superconducting double junction with Rashba spin-orbit interaction. 2020 , 572, 1353592	

594	Manipulation of room-temperature valley-coherent exciton-polaritons in atomically thin crystals by real and artificial magnetic fields. 2020 , 7, 035025	6
593	Pressure Manipulation of Interlayer Interactions and Ultrafast Carrier Dynamics in Few-Layer MoS ₂ . 2020 , 124, 11183-11192	1
592	Annihilation mechanism of excitons in a MoS ₂ monolayer through direct Förster-type energy transfer and multistep diffusion. 2020 , 101,	6
591	Valley-Spin Logic Gates. 2020 , 13,	14
590	Realization of valley polarization in monolayer WS ₂ via 3d transition metal atom adsorption. 2020 , 53, 384001	1
589	Exciton valley depolarization in monolayer transition-metal dichalcogenides. 2020 , 101,	10
588	Valley Polarization and Valleyresistance in a Monolayer Transition Metal Dichalcogenide Superlattice. 2020 , 11, 3882-3888	1
587	Induced valley and spin splitting in monolayer MoS ₂ by interfacial magnetic proximity of half-Heusler LiBeN substrate. 2020 , 512, 167061	1
586	Colloquium: Spintronics in graphene and other two-dimensional materials. 2020 , 92,	108
585	Emission Control from Transition Metal Dichalcogenide Monolayers by Aggregation-Induced Molecular Rotors. 2020 , 14, 7444-7453	15
584	Electrical control of the valley degree of freedom in 2D ferroelectric/antiferromagnetic heterostructures. 2020 , 8, 8098-8106	15
583	Nanoscale Optical Addressing of Valley Pseudospins through Transverse Optical Spin. 2020 , 20, 4410-4415	16
582	Steering valley-polarized emission of monolayer MoS sandwiched in plasmonic antennas. 2020 , 6, eaao0019	25
581	Valley degree of freedom in ferromagnetic Janus monolayer H-VSSe and the asymmetry-based tuning of the valleytronic properties. 2020 , 101,	15
580	Modulating flow near substrate surface to grow clean and large-area monolayer MoS. 2020 , 31, 415706	3
579	Three-particle states and brightening of intervalley excitons in a doped MoS ₂ monolayer. 2020 , 101,	5
578	Artificial Metaphotonics Born Naturally in Two Dimensions. 2020 , 120, 6197-6246	42
577	Modulating the electronic, magnetic and optical properties of 1T-SnSe ₂ monolayer by defects: An ab initio study. 2020 , 145, 106621	11

576	Spin polarization in monolayer MoS ₂ in the presence of proximity-induced interactions. 2020 , 31, 2050143	
575	STEM imaging artifacts with three-fold astigmatism in monolayer transition metal dichalcogenides. 2020 , 116, 243102	4
574	Terahertz optical Hall effect in monolayer MoS ₂ in the presence of proximity-induced interactions. 2020 , 101,	4
573	Modulation of carrier lifetime in MoS ₂ monolayer by uniaxial strain. 2020 , 29, 077201	2
572	Valley Polarization in Superacid-Treated Monolayer MoS ₂ . 2020 , 2, 1981-1988	1
571	Near-Unity Polarization of Valley-Dependent Second-Harmonic Generation in Stacked TMDC Layers and Heterostructures at Room Temperature. 2020 , 32, e1908061	17
570	2D materials for spintronic devices. 2020 , 4,	78
569	Mott and generalized Wigner crystal states in WSe ₂ /WS ₂ moiré superlattices. 2020 , 579, 359-363	212
568	Hybridizing Plasmonic Materials with 2D-Transition Metal Dichalcogenides toward Functional Applications. 2020 , 16, e1904271	49
567	Spin-valve effect of 2D-materials based magnetic junctions. 2020 , 253-272	1
566	Meron Spin Textures in Momentum Space. 2020 , 124, 106103	22
565	Transdimensional material platforms for tunable metasurface design. 2020 , 45, 188-195	6
564	Van der waals heterojunctions for catalysis. 2020 , 6, 100059	13
563	Topological spin-valley filtering effects based on hybrid silicene-like nanoribbons. 2020 , 22, 053034	7
562	Extended 1D defect induced magnetism in 2D MoS crystal. 2020 , 32, 215302	0
561	Light-matter interaction in van der Waals hetero-structures. 2020 , 32, 333002	6
560	Measuring Valley Polarization in Two-Dimensional Materials with Second-Harmonic Spectroscopy. 2020 , 7, 925-931	8
559	Ultrafast Response of a Hybrid Device Based on Strongly Coupled Monolayer WS ₂ and Photonic Crystals: The Effect of Photoinduced Coulombic Screening. 2020 , 14, 1900419	10

558	Electric field dependent valley polarization in 2D WSe ₂ /CrGeTe heterostructure. 2020 , 31, 425702	8
557	Out-of-plane carrier spin in transition-metal dichalcogenides under electric current. 2020 , 117, 16749-16755	3
556	Valley Polarization in Monolayer Ferromagnetic FeCl: A First-Principles Study. 2020 , 14, 2000206	0
555	Unveiling the Fine Structural Distortion of Atomically Thin Bi ₂ O ₃ by Third-Harmonic Generation. 2020 , 32, e2002831	5
554	Selectively Depopulating Valley-Polarized Excitons in Monolayer MoS ₂ by Local Chirality in Single Plasmonic Nanocavity. 2020 , 20, 4953-4959	20
553	Routing Optical Spin and Pseudospin with Metasurfaces. 2020 , 14,	4
552	Superconducting 3-TaSe with Giant In-Plane Upper Critical Fields. 2020 , 20, 1725-1730	8
551	Valley polarization in monolayer CrX ₂ (X = S, Se) with magnetically doping and proximity coupling. 2020 , 22, 033002	16
550	Two-dimensional ferrovalley materials. 2020 , 65-93	2
549	Electronic and optical properties of janus MoSSe and ZnO vdWs heterostructures. 2020 , 140, 106445	58
548	Tunable Valley Polarization in a Multiferroic CuCrP ₂ Te ₆ Monolayer. 2020 , 14, 2000008	4
547	Landau-Quantized Excitonic Absorption and Luminescence in a Monolayer Valley Semiconductor. 2020 , 124, 097401	10
546	Probing Exciton Dispersions of Freestanding Monolayer WSe ₂ by Momentum-Resolved Electron Energy-Loss Spectroscopy. 2020 , 124, 087401	13
545	Large Valley Splitting in van der Waals Heterostructures with Type-III Band Alignment. 2020 , 13,	17
544	Controllable photoenhanced spin- and valley-polarized transport in ferromagnetic MoS ₂ junction. 2020 , 503, 166580	6
543	Valley-Layer Coupling: A New Design Principle for Valleytronics. 2020 , 124, 037701	31
542	Vertical Heterostructure of SnS-MoS ₂ Synthesized by Sulfur-Preloaded Chemical Vapor Deposition. 2020 , 12, 7423-7431	13
541	Toward attosecond control of electron dynamics in two-dimensional materials. 2020 , 116, 043101	10

540	Nonlinear Optics at Excited States of Exciton Polaritons in Two-Dimensional Atomic Crystals. 2020 , 20, 1676-1685	11
539	Valley phonons and exciton complexes in a monolayer semiconductor. <i>Nature Communications</i> , 2020 , 11, 618	17.4 55
538	Synthesis of High-Quality Monolayer MoS by Direct Liquid Injection. 2020 , 12, 9580-9588	6
537	Controlling neutral and charged excitons in MoS ₂ with defects. 2020 , 35, 949-957	5
536	Strong Light-Matter Interactions Enabled by Polaritons in Atomically Thin Materials. 2020 , 8, 1901473	30
535	Spin and valley splittings in Janus monolayer WSe ₂ on a MnO(111) surface: Large effective Zeeman field and opening of a helical gap. 2020 , 101,	15
534	Circular dichroism and Faraday and Kerr rotation in two-dimensional materials with intrinsic Hall conductivities. 2020 , 101,	1
533	Controllable Epitaxial Growth of MoSe Bilayers with Different Stacking Orders by Reverse-Flow Chemical Vapor Deposition. 2020 , 12, 23347-23355	10
532	Orbital Hall insulating phase in transition metal dichalcogenide monolayers. 2020 , 101,	18
531	Bright and highly valley polarized trions in chemically doped monolayer MoS ₂ . 2020 , 13, 035002	2
530	Spontaneously induced magnetic anisotropy in an ultrathin Co/MoS heterojunction. 2020 , 5, 1058-1064	0
529	All printed wide range humidity sensor array combining MoSe ₂ and PVOH in series. 2020 , 31, 7683-7697	7
528	Modulation of Second-Harmonic Generation in Bulk MoS ₂ via Excitation Wavelength and Metal Film Thickness. 2020 , 49, 3761-3769	2
527	Near-Unity Light Absorption in a Monolayer WS Van der Waals Heterostructure Cavity. 2020 , 20, 3545-3552	22
526	Unconventional Photocurrents from Surface Fermi Arcs in Topological Chiral Semimetals. 2020 , 124, 166404	20
525	Evidence of new 2D material: Cu ₂ Te. 2020 , 7, 035010	9
524	Changing the Electronic and Magnetic Properties of Monolayer HfS ₂ by Doping and Vacancy Defects: Insight from First-Principles Calculations. 2020 , 257, 1900768	2
523	High-performance optoelectronic devices based on van der Waals vertical MoS ₂ /MoSe ₂ heterostructures. 2020 , 13, 1053-1059	33

522	Influence of organic promoter gradient on the MoS ₂ growth dynamics. 2020 , 2, 2352-2362	12
521	Valley-Dependent Spin Transport in Monolayer Transition-Metal Dichalcogenides. 2020 , 124, 166803	14
520	First steps of blue phosphorene growth on Au(1 1 1). 2021 , 39, 1153-1156	1
519	Topological structures of transition metal dichalcogenides: A review on fabrication, effects, applications, and potential. 2021 , 3, 133-154	10
518	Strong exciton-photon interaction and lasing of two-dimensional transition metal dichalcogenide semiconductors. 2021 , 14, 1937-1954	9
517	Large valley-polarized state in single-layer NbX ₂ (X = S, Se): Theoretical prediction. 2021 , 14, 834-839	12
516	Synthesis of two-dimensional transition metal dichalcogenides for electronics and optoelectronics. 2021 , 3, 362-396	25
515	Realization of an Antiferromagnetic Superatomic Graphene: Dirac Mott Insulator and Circular Dichroism Hall Effect. 2021 , 21, 230-235	5
514	Valley polarization caused by crystalline symmetry breaking. 2021 , 8, 244-249	2
513	Magneto-optic effects of monolayer transition metal dichalcogenides induced by Rashba spin-orbit coupling. 2021 , 521, 167511	1
512	A Valleytronic Diamond Transistor: Electrostatic Control of Valley Currents and Charge-State Manipulation of NV Centers. 2021 , 21, 868-874	3
511	Monolayer Excitonic Semiconductors Integrated with Au Quasi-Periodic Nanoterrace Morphology on Fused Silica Substrates for Light-Emitting Devices. 2021 , 4, 84-93	1
510	Gravitational Search Algorithm for Calculating Exciton Binding Energy in Monolayer Transition Metal Dichalcogenides. 2021 , 50, 163-169	1
509	Guide to optical spectroscopy of layered semiconductors. 2021 , 3, 39-54	13
508	Antiferromagnetic proximity coupling between semiconductor quantum emitters in WSe and van der Waals ferromagnets. 2021 , 13, 832-841	2
507	Two-dimensional MX Dirac materials and quantum spin Hall insulators with tunable electronic and topological properties. 2021 , 14, 584-589	5
506	Theory and Ab Initio Calculation of Optically Excited States-Recent Advances in 2D Materials. 2021 , 33, e1904306	7
505	Investigations of Electron-Electron and Interlayer Electron-Phonon Coupling in van der Waals hBN/WSe/hBN Heterostructures by Photoluminescence Excitation Experiments. 2021 , 14,	1

504	Nonequilibrium states in quantum materials under time-period driving. 2021 , 0-0	0
503	Excitons in Bilayer MoS ₂ Displaying a Colossal Electric Field Splitting and Tunable Magnetic Response. 2021 , 126, 037401	7
502	Room temperature spontaneous valley polarization in two-dimensional FeClBr monolayer. 2021 , 13, 14807-14813	7
501	Valley pseudospin in monolayer MoSi ₂ N ₄ and MoSi ₂ As ₄ . 2021 , 103,	42
500	Morphology-induced spectral modification of self-assembled WS pyramids.. 2021 , 3, 6427-6437	1
499	Electronic properties of two-dimensional Janus atomic crystal. 2021 , 0-0	2
498	Moiré Superlattices and related moiré excitons in twisted van der Waals heterostructures. 2021 , 50, 6401-6422	9
497	Wrinkle and near-resonance effects on the vibrational and electronic properties in compressed monolayer MoSe. 2021 , 23, 11709-11716	2
496	Excitonic density wave and spin-valley superfluid in bilayer transition metal dichalcogenide. <i>Nature Communications</i> , 2021 , 12, 642	17.4 9
495	Valleytronic properties and devices based on two-dimensional atomic layer materials. 2021 , 70, 027302-027302	4
494	Electric field induced giant valley polarization in two dimensional ferromagnetic WSe ₂ /CrSnSe ₃ heterostructure. 2021 , 5,	4
493	Intercorrelated ferroelectrics in 2D van der Waals materials. 2021 , 8, 1683-1689	11
492	Theoretical evidence of the spin-valley coupling and valley polarization in two-dimensional MoSiX (X = N, P, and As). 2021 , 23, 3144-3151	20
491	Valley splitting in the antiferromagnetic heterostructure MnPSe ₃ /WSe ₂ . 2021 , 9, 3562-3568	3
490	Control of light-valley interactions in 2D transition metal dichalcogenides with nanophotonic structures. 2021 , 13, 6357-6372	0
489	Microscopic theory of cavity-confined monolayer semiconductors: Polariton-induced valley relaxation and the prospect of enhancing and controlling valley pseudospin by chiral strong coupling. 2021 , 103,	2
488	Nonvolatile Controlling Valleytronics by Ferroelectricity in 2H-VSe ₂ /Sc ₂ CO ₂ van der Waals Heterostructure. 2021 , 125, 2802-2809	3
487	Efficient phonon cascades in WSe monolayers. <i>Nature Communications</i> , 2021 , 12, 538	17.4 12

486	Intrinsic donor-bound excitons in ultraclean monolayer semiconductors. <i>Nature Communications</i> , 2021 , 12, 871	17.4	10
485	Selective Photoexcitation of Finite-Momentum Excitons in Monolayer MoS by Twisted Light. 2021 , 15, 3481-3489		3
484	Electrical Control of the Valley Magnetic Domain and Anomalous Electron Transport in Bilayer MoS ₂ . 2021 , 15,		0
483	Chiral Single-Photon Generators. 2021 , 15, 1912-1916		2
482	Measurement of Conduction and Valence Bands g-Factors in a Transition Metal Dichalcogenide Monolayer. 2021 , 126, 067403		5
481	Thickness dependence of work function, ionization energy, and electron affinity of Mo and W dichalcogenides from DFT and GW calculations. 2021 , 103,		24
480	Valley Depolarization Dynamics in Monolayer Transition-Metal Dichalcogenides: Role of the Satellite Valley. 2021 , 21, 1785-1791		3
479	TMDC-Based Topological Nanospaser: Single and Double Threshold Behavior. 2021 , 8, 907-915		1
478	Valley polarization in biased bilayer graphene using circularly polarized light. 2021 , 103,		6
477	Localized state effect and exciton dynamics for monolayer WS. 2021 , 29, 5856-5866		4
476	Coupled Double Optical Stark Effect in CdSe Colloidal Nanoplatelets. 2021 , 8, 745-751		3
475	Modulation of the second-harmonic generation in MoS ₂ by graphene covering*. 2021 , 30, 027803		1
474	Valley manipulation in monolayer transition metal dichalcogenides and their hybrid systems: status and challenges. 2021 , 84, 026401		11
473	Spin-valley coupling in a two-dimensional VSi ₂ N ₄ monolayer. 2021 , 103,		29
472	Measurement of the optical constants of monolayer MoS ₂ via the photonic spin Hall effect. 2021 , 118, 111104		10
471	k · p Parametrization and Linear and Circular Dichroism in Strained Monolayer (Janus) Transition Metal Dichalcogenides from First-Principles. 2021 , 125, 7439-7450		0
470	Moiré excitons at line defects in transition metal dichalcogenides heterobilayers. 1-16		0
469	Magneto-optics of layered two-dimensional semiconductors and heterostructures: Progress and prospects. 2021 , 129, 120902		4

468	Attractive and Repulsive Exciton-Polariton Interactions Mediated by an Electron Gas. 2021 , 126, 127405	1
467	First-principles study of H ₂ S sensing mechanism on the Pd/VO ₂ surface. 2021 , 119, e1900941	0
466	Valley Hall effect and nonlocal resistance in locally gapped graphene. 2021 , 103,	4
465	Colloquium: Physical properties of group-IV monochalcogenide monolayers. 2021 , 93,	18
464	Superposition of intra- and inter-layer excitons in twistrionic MoSe ₂ /WSe ₂ bilayers probed by resonant Raman scattering. 2021 , 8, 035009	3
463	Combined piezoelectricity and ferrovalley properties in Janus monolayer VClBr. 2021 , 103,	6
462	Exciton band structure of molybdenum disulfide: from monolayer to bulk. 2021 , 3, 014005	
461	GW band structure of monolayer MoS ₂ using the SternheimerGW method and effect of dielectric environment. 2021 , 103,	1
460	Strong valley splitting in d ₀ two-dimensional SnO induced by magnetic proximity effect. 2021 ,	
459	Atomic and electronic structure of two-dimensional Mo(1-x)W _x S ₂ alloys. 2021 , 4, 025004	3
458	Many-Body Effect on Optical Properties of Monolayer Molybdenum Diselenide. 2021 , 12, 2555-2561	6
457	Plasmonic hybrids of two-dimensional transition metal dichalcogenides and nanoscale metals: Architectures, enhanced optical properties and devices. 2021 , 17, 100343	6
456	Nonlinear photocurrent in transition metal dichalcogenide with warping term under illuminating of light*. 2021 , 30, 037301	
455	Real-time -BSE investigations on spin-valley exciton dynamics in monolayer transition metal dichalcogenide. 2021 , 7,	23
454	Electron mobility in monolayer WS ₂ encapsulated in hexagonal boron-nitride. 2021 , 118, 102105	3
453	Plasmonic Modulation of Valleytronic Emission in Two-Dimensional Transition Metal Dichalcogenides. 2021 , 31, 2010234	10
452	Recent progress in the role of two-dimensional materials as an efficient charge transport layer in perovskite solar cells. 2021 , 45, 12598-12613	3
451	Noncovalently functionalization of Janus MoSSe monolayer with organic molecules. 2021 , 127, 114503	29

450	Tuning the valley polarization in WS ₂ monolayers via control of active defect sites induced by photochemical doping. 2021 , 118, 123103	2
449	Photoinduced anomalous Hall effect in two-dimensional transition metal dichalcogenides. 2021 , 103,	2
448	Long-range directional transport of valley information from transition metal dichalcogenides via a dielectric waveguide. 2021 , 29, 10688-10697	2
447	Controlling spin-orbit coupling strength of bulk transition metal dichalcogenide semiconductors. 2021 , 30, 4-4	
446	Optically induced spin current in monolayer NbSe ₂ . 2021 , 103,	1
445	Deciphering the Intense Postgap Absorptions of Monolayer Transition Metal Dichalcogenides. 2021 , 15, 7783-7789	2
444	Interlayer exciton formation, relaxation, and transport in TMD van der Waals heterostructures. 2021 , 10, 72	36
443	Excitonic Effects on Two-Dimensional Transition-Metal Dichalcogenide Monolayers: Impact on Solar Cell Efficiency. 2021 , 4, 3265-3278	2
442	Valley relaxation of resident electrons and holes in a monolayer semiconductor: Dependence on carrier density and the role of substrate-induced disorder. 2021 , 5,	9
441	Terahertz Driven Reversible Topological Phase Transition of Monolayer Transition Metal Dichalcogenides. 2021 , 8, e2003832	11
440	Tunneling magnetoresistance and spin-valley polarization in magnetic silicene superlattices. 2021 , 103,	3
439	Spin-Polarized Tunable Photocurrents. 2021 , 21, 3177-3183	2
438	Anomalous exciton transport in response to a uniform in-plane electric field. 2021 , 103,	0
437	Formation of Al ₂ O ₃ /MoS ₂ nanocomposite coatings by the use of electro spark deposition and oxidation. 2021 , 47, 11644-11653	2
436	Orientation of Few-Layer MoS ₂ Films: In-Situ X-ray Scattering Study During Sulfurization. 2021 , 125, 9461-9468	3
435	Sensing mechanism and optical properties of H ₂ O on the surface of Pt/VO ₂ : First-principles study. 2021 , 129, 134301	3
434	Valley Two-Qubit System in a MoS ₂ -Monolayer Gated Double Quantum dot. 2021 , 15,	5
433	Valley-selective Floquet Chern flat bands in twisted multilayer graphene. 2021 , 103,	4

432	Gradient rhenium doping enabled tunable anisotropic valleytronic material based on monolayer molybdenum disulfide. 2021 , 8, 035031	1
431	Spatially-resolved measurements of spin valley polarization in MOCVD-grown monolayer WSe. 2021 , 29, 17269-17276	0
430	Luminescence Anomaly of Dipolar Valley Excitons in Homobilayer Semiconductor Moiré Superlattices. 2021 , 11,	2
429	First-principles investigation of the valley and electrical properties of carbon-doped Graphyne-like BN sheet*. 2021 , 30, 057101	1
428	Synthesis and characterization of 2D transition metal dichalcogenides: Recent progress from a vacuum surface science perspective. 2021 , 76, 100523	12
427	Electrical contacts to few-layer MoS with phase-engineering and metal intercalation for tuning the contact performance. 2021 , 154, 184705	0
426	Tunable spin-valley coupling in layered polar Dirac metals. 2021 , 2,	1
425	Two-dimensional plasmonic polarons in n-doped monolayer MoS ₂ . 2021 , 103,	1
424	Uniaxial strain induced symmetry lowering and valleys drift in MoS ₂ . 2021 , 23, 053007	2
423	Effects of p-type (Ag, Cu) dopant on the electronic, optical and photocatalytic properties of MoS ₂ , and impact on Au/Mo _{100-x-y} Ag _x Cu _y S ₂ performance. 2021 , 863, 158366	6
422	Transfer of large-scale two-dimensional semiconductors: challenges and developments. 2021 , 8, 032001	20
421	Sub-10 fs Intervalley Exciton Coupling in Monolayer MoS Revealed by Helicity-Resolved Two-Dimensional Electronic Spectroscopy. 2021 , 15, 10253-10263	1
420	Effect of Noninteracting Intercalants on Layer Exfoliation in Transition-Metal Dichalcogenides. 2021 , 15,	1
419	All-optical nonreciprocity due to valley polarization pumping in transition metal dichalcogenides. <i>Nature Communications</i> , 2021 , 12, 3746	17.4 18
418	Valley current generation using biased bilayer graphene dots. 2021 , 103,	3
417	Measuring spin-polarized electronic states of quantum materials: 2H-NbSe ₂ . 2021 , 103,	1
416	Two-dimensional alloyed transition metal dichalcogenide nanosheets: Synthesis and applications. 2021 ,	11
415	Piezoelectric Nanogenerators Derived Self-Powered Sensors for Multifunctional Applications and Artificial Intelligence. 2021 , 31, 2102983	30

4 ¹⁴	Spin- and valley-polarized transport and magnetoresistance in asymmetric ferromagnetic WSe ₂ tunnel junctions. 2021 , 103,	2
4 ¹³	Crystalline chirality and interlocked double hourglass Weyl fermion in polyhedra-intercalated transition metal dichalcogenides. 2021 , 13,	0
4 ¹²	Enhanced Valley Polarization of Bilayer MoSe with Variable Stacking Order and Interlayer Coupling. 2021 , 12, 5879-5888	2
4 ¹¹	Strain-tuning of the electronic, optical, and vibrational properties of two-dimensional crystals. 2021 , 8, 021318	15
4 ¹⁰	Valley filter and valley valve based on WSe ₂ double-barrier junctions modulated by polarized light. 2021 , 103,	3
4 ⁰⁹	Progress in light-to-frequency conversion circuits based on low dimensional semiconductors. 2021 , 14, 2938-2964	1
4 ⁰⁸	Strain modulation of the spin-valley polarization in monolayer manganese chalcogenophosphates alloys. 2021 , 33,	1
4 ⁰⁷	Spin-orbit correlations and exchange-bias control in twisted Janus dichalcogenide multilayers. 2021 , 23, 073038	4
4 ⁰⁶	Semiclassical approach for excitonic spectrum of Coulomb coupling between two Dirac particles. 2021 , 477, 20210098	
4 ⁰⁵	Topological metal phases in irradiated graphene sandwiched by asymmetric ferromagnets. 2021 , 104,	0
4 ⁰⁴	Structure Dependent Water Transport in Membranes Based on Two-Dimensional Materials. 2021 , 60, 10917-10959	3
4 ⁰³	Topological kink states in graphene. 2021 , 32,	1
4 ⁰²	Highly Efficient, Surface Ligand Modified Quantum Dot Light-Emitting Diodes Driven by Type-Controllable MoTe ₂ Thin Film Transistors via Electron Charge Enhancer. 2021 , 7, 2100535	4
4 ⁰¹	Ultrafast Insights into High Energy (C and D) Excitons in Few Layer WS ₂ . 2021 , 12, 6526-6534	4
4 ⁰⁰	Large Perpendicular Magnetic Anisotropy in Ta/CoFeB/MgO on Full-Coverage Monolayer MoS ₂ and First-Principles Study of Its Electronic Structure. 2021 , 13, 32579-32589	1
399	Robust and High Photoluminescence in WS ₂ Monolayer through In Situ Defect Engineering. 2021 , 31, 2105339	7
398	Experimental observation of topological Z exciton-polaritons in transition metal dichalcogenide monolayers. <i>Nature Communications</i> , 2021 , 12, 4425	17.4 12
397	Enhanced Trion Emission in Monolayer MoSe ₂ by Constructing a Type-I Van Der Waals Heterostructure. 2021 , 31, 2104960	2

396	Spin-valley locking and bulk quantum Hall effect in a noncentrosymmetric Dirac semimetal BaMnSb. <i>Nature Communications</i> , 2021 , 12, 4062	17.4	4
395	Manipulating valley-polarized photoluminescence of MoS2 monolayer at off resonance wavelength with a double-resonance strategy. 2021 , 119, 031106		2
394	Prediction of the two-dimensional Janus ferrovalley material LaBr ₃ . 2021 , 104,		5
393	Excitonic and Valley-Polarization Signatures of Fractional Correlated Electronic Phases in a WSe ₂ /WS ₂ Moiré Superlattice. 2021 , 127, 037402		9
392	Acoustic Valley Spin Chern Insulators. 2021 , 16,		1
391	Electronic states of multilayer VTe ₂ : Quasi-one-dimensional Fermi surface and implications for charge density waves. 2021 , 104,		2
390	Chiral phonons in the honeycomb sublattice of layered CoSn-like compounds. 2021 , 104,		3
389	Spin/Valley Coupled Dynamics of Electrons and Holes at the MoS-MoSe Interface. 2021 , 21, 7123-7130		2
388	Valley-Contrasting Physics in Single-Layer CrSiN and CrSiP. 2021 , 12, 8341-8346		8
387	Role of dark exciton states in the relaxation dynamics of bright 1s excitons in monolayer WSe ₂ . 2021 , 119, 093101		0
386	Valley-related multiple Hall effect in monolayer VSi ₂ P ₄ . 2021 , 104,		12
385	Anomalous ultrafast all-optical Hall effect in gapped graphene. 2021 ,		2
384	Observation and manipulation of valley polarization in two-dimensional H-Tl ₂ O/CrI ₃ heterostructure. 2021 , 558, 149604		4
383	Nature of optical excitations and bandgap of ReMoS alloy at nanoscale probed from high resolution low loss electron energy loss spectroscopy. 2021 , 33,		
382	Polarization-insensitive broadband absorption enhancement with few-layer MoS ₂ film. 2021 , 408, 127511		4
381	Activating the Basal Plane of 2H-MoS ₂ by Doping Phosphor for Enhancement in the Photocatalytic Degradation of Organic Contaminants. 2021 , 13, 38586-38594		3
380	Stable valley-layer coupling and design principle in 2D lattice. 2021 , 119, 073101		1
379	Quasiparticle band-gap renormalization in doped monolayer MoS ₂ . 2021 , 104,		1

378	A novel van der Waals semiconductor: InTe crystal. 2021 , 119, 111331		1
377	Growth, domain structure, and atomic adsorption sites of hBN on the Ni(111) surface. 2021 , 5,		0
376	Anomalous enhancement of atomic vibration induced by electronic transition in 2H-MoTe under compression. 2021 , 34,		
375	Two-Dimensional Materials for Advanced Solar Cells.		
374	Optical read-out of Coulomb staircases in a moiré superlattice via trapped interlayer trions. 2021 , 16, 1237-1243		6
373	Novel two-dimensional transition metal chalcogenides created by epitaxial growth. 2021 , 64, 1		2
372	Spin/valley pumping of resident electrons in WSe and WS monolayers. <i>Nature Communications</i> , 2021 , 12, 5455	17.4	4
371	Van der Waals heterostructure Pt ₂ HgSe ₃ /CrI ₃ for topological valleytronics. 2021 , 104,		1
370	Enhancement of exciton valley polarization in monolayer MoS ₂ induced by scattering. 2021 , 104,		3
369	Prediction of Intrinsic Valley Polarization in Single-Layer GdX ₂ (X = Br, Cl) from a First-Principles Study. 2021 , 258, 2100356		1
368	The magnetic proximity effect at the MoS ₂ /CrI ₃ interface. 2021 , 34,		1
367	Vacancy effect on the structure and diffusion of a Li adatom on the 2D Janus MoSSe monolayer. 2021 , 198, 110687		2
366	The structure, electronic, magnetic and optical properties of the Co-X (X = B, C, N, O or F) codoped single-layer WS ₂ . 2021 , 134, 114917		1
365	Interaction of ultrafast optical pulse with monolayer hexagonal Boron Nitride (h-BN). 2021 , 134, 114906		2
364	Vacancy defects- and strain-tunable electronic structures and magnetism in two-dimensional MoTe ₂ : Insight from first-principles calculations. 2021 , 27, 101442		1
363	Manipulating the Raman scattering rotation magnetic field in an MoS monolayer.. 2021 , 11, 4035-4041		0
362	Lattice thermal transport in two-dimensional alloys and fractal heterostructures. 2021 , 11, 1656		2
361	Two-Dimensional (2D) Materials for Next-Generation Nanoelectronics and Optoelectronics: Advances and Trends. 2021 , 65-96		

360	Ab initio investigations on Excited State Dynamics in Condensed Matter Systems. 2021 , 0-0	0
359	Selection rule for Raman spectra of two-dimensional materials using circularly-polarized vortex light. 2021 , 23, 17271-17278	1
358	Strong plasmon-exciton coupling in transition metal dichalcogenides and plasmonic nanostructures. 2021 , 13, 4408-4419	7
357	Ultrafast transient sub-bandgap absorption of monolayer MoS. 2021 , 10, 27	10
356	Predicted septuple-atomic-layer Janus MSiGeN ₄ (M = Mo and W) monolayers with Rashba spin splitting and high electron carrier mobilities. 2021 , 9, 2464-2473	33
355	Growth of a Large, Single-Crystalline WS Monolayer for High-Performance Photodetectors by Chemical Vapor Deposition. 2021 , 12,	7
354	Probing of negatively charged and neutral excitons in MoS ₂ /hBN and hBN/MoS ₂ /hBN van der Waals heterostructures. 2020 ,	7
353	Electronic Structure of Exfoliated MoS ₂ . 2014 , 37-51	3
352	Insights into Vibrational and Electronic Properties of MoS ₂ Using Raman, Photoluminescence, and Transport Studies. 2014 , 155-215	8
351	Optical Characterization, Low-Temperature Photoluminescence, and Photocarrier Dynamics in MoS ₂ . 2014 , 217-236	6
350	Measurement of the Optical Dielectric Function of Monolayer Transition Metal Dichalcogenides: MoS ₂ , MoSe ₂ , WS ₂ , and WSe ₂ . 2016 , 33-43	10
349	Measurement of the Second-Order Nonlinear Susceptibility and Probing Symmetry Properties of Few-Layer MoS ₂ and h-BN by Optical Second-Harmonic Generation. 2016 , 45-54	1
348	Valley Splitting and Polarization by Zeeman Effect in Monolayer MoSe ₂ . 2016 , 55-64	5
347	First-principles study of mechanical, electronic and optical properties of Janus structure in transition metal dichalcogenides. 2020 , 526, 146730	22
346	Janus XSe ₂ /SiC (X = Mo, W) van der Waals heterostructures as promising water-splitting photocatalysts. 2020 , 123, 114207	63
345	Inverse Design of a Graphene-Based Quantum Transducer via Neuroevolution. 2020 , 124, 26117-26123	5
344	Prominent room temperature valley polarization in WS ₂ /graphene heterostructures grown by chemical vapor deposition. 2020 , 116, 203102	12
343	Exchange-bias controlled correlations in magnetically encapsulated twisted van der Waals dichalcogenides. 2020 , 53, 474001	6

342	Excitons in two-dimensional van der Waals heterostructures. 2021 , 54, 053001	3
341	Pressure-induced isostructural electronic topological transitions in 2H-MoTe: x-ray diffraction and first-principles study. 2021 , 33, 065402	1
340	Enhanced Faraday rotation in proximitized monolayer transition metal dichalcogenides. 2020 , 31, 465202	2
339	Highly efficient and controllable photoluminescence emission on a suspended MoS-based plasmonic grating. 2020 , 31, 505201	2
338	Manipulation of valley splitting for the WSe ₂ /NiCl ₂ heterostructure by adjusting the interlayer spacing and constructing a NiCl ₂ /WSe ₂ /NiCl ₂ heterojunction. 2020 , 22, 103061	4
337	Observation of intravalley phonon scattering of 2s excitons in MoSe ₂ and WSe ₂ monolayers. 2020 , 7, 045008	5
336	Optical dispersion of valley-hybridised coherent excitons with momentum-dependent valley polarisation in monolayer semiconductor. 2021 , 8, 015009	7
335	Spin-Caloritronic Batteries. 2017 , 8,	7
334	Berry curvature, orbital magnetization, and Nernst effect in biased bilayer WSe ₂ . 2020 , 102,	0
333	Valley-dependent properties of monolayer MoSi ₂ N ₄ , WSi ₂ N ₄ , and MoSi ₂ As ₄ . 2020 , 102,	55
332	Terahertz surface emission of d-band electrons from a layered tungsten disulfide crystal by the surface field. 2017 , 96,	32
331	Dark excitations in monolayer transition metal dichalcogenides. 2017 , 96,	44
330	Engineering of optical and electronic band gaps in transition metal dichalcogenide monolayers through external dielectric screening. 2017 , 1,	55
329	Optical spectroscopy of excited exciton states in MoS ₂ monolayers in van der Waals heterostructures. 2018 , 2,	60
328	Electrical valley filtering in transition metal dichalcogenides. 2018 , 2,	9
327	Evolution of electronic structure and electron-phonon coupling in ultrathin tetragonal CoSe films. 2018 , 2,	4
326	Growth and structure of singly oriented single-layer tungsten disulfide on Au(111). 2019 , 3,	11
325	Dimensionality reduction and band quantization induced by potassium intercalation in 1TbTe ₂ . 2019 , 3,	13

324	Electrical switching of valley polarization in monolayer semiconductors. 2020 , 4,	7
323	Ultrafast dynamics in monolayer transition metal dichalcogenides: Interplay of dark excitons, phonons, and intervalley exchange. 2019 , 1,	24
322	Valley-selective chiral phonon replicas of dark excitons and trions in monolayer WSe ₂ . 2019 , 1,	29
321	Theory of field-modulated spin valley orbital pseudospin physics. 2020 , 2,	2
320	Suppression of intervalley exchange coupling in the presence of momentum-dark states in transition metal dichalcogenides. 2020 , 2,	12
319	Valley Zeeman effect and Landau levels in two-dimensional transition metal dichalcogenides. 2020 , 2,	8
318	Berry phase in the composite Fermi liquid. 2020 , 2,	1
317	Electronic Spectrum and Optical Properties of Quantum Wires Made from Transition Metal Dichalcogenides. 2019 , 110, 540-544	1
316	Strain dependence of photoluminescence and circular dichroism in transition metal dichalcogenides: a $k \cdot p$ analysis. 2018 , 26, 28672-28681	19
315	Observation of 2D semiconductor P-type dark-exciton lifetime using two-photon ultrafast spectroscopy. 2019 , 27, 33427-33435	2
314	Chiral selection rules for multi-photon processes in two-dimensional honeycomb materials. 2019 , 44, 2141-2144	10
313	Radially polarized light beams from spin-forbidden dark excitons and trions in monolayer WSe ₂ . 2020 , 10, 1273	3
312	Second harmonic generation spectroscopy on two-dimensional materials [Invited]. 2019 , 9, 1136	27
311	Tunable geometric photocurrent in van der Waals heterostructure. 2020 , 7, 1204	4
310	Layer-modulated two-photon absorption in MoS ₂ : probing the shift of the excitonic dark state and band-edge. 2019 , 7, 762	11
309	Topological nanospaser. 2020 , 9, 865-874	4
308	Fine structures of valley-polarized excitonic states in monolayer transitional metal dichalcogenides. 2020 , 9, 1811-1829	7
307	Ligand-induced chirality and optical activity in semiconductor nanocrystals: theory and applications. 2020 , 10, 797-824	15

306	Valley depolarization in downconversion and upconversion emission of monolayer WS ₂ at room temperature. 2020 , 9, 4809-4818	2
305	Ellipsometry and optical spectroscopy of low-dimensional family TMDs. 2017 , 20, 284-296	11
304	OPTIMIZING THE THERMAL TRANSPORT PROPERTIES OF SINGLE LAYER (2D) TRANSITION METAL DICHALCOGENIDES (TMD). 373-392	1
303	Quasi-two-dimensional transition metal dichalcogenides: structure, synthesis, properties and applications. 2018 , 188, 3-30	6
302	Polarization-Dependent Optical Properties and Optoelectronic Devices of 2D Materials. 2020 , 2020, 5464258	9
301	The numerical-aperture-dependent optical contrast and thickness determination of ultrathin flakes of two-dimensional atomic crystals: A case of graphene multilayers. 2013 , 62, 110702	13
300	Topological phonons and phonon Hall effects. 2017 , 66, 226601	3
299	Phonon angular momentum and chiral phonons. 2018 , 67, 076302	2
298	Strong Rashba-Dresselhaus Effect in Nonchiral 2D Ruddlesden-Popper Perovskites. 2101232	1
297	Interlayer Exciton in Transition Metal Dichalcogenide Semiconductors for 2D Optoelectronics. 2021 , e2107138	4
296	Observation of Room-Temperature Dark Exciton Emission in Nanopatch-Decorated Monolayer WSe ₂ on Metal Substrate. 2101801	0
295	Phonon-Assisted Intervalley Scattering Determines Ultrafast Exciton Dynamics in MoSe ₂ Bilayers. 2021 , 127, 157403	2
294	Nonadiabatic nonlinear optics and quantum geometry [Application to the twisted Schwinger effect. 2021 , 11,	0
293	Optoelectronics properties of Janus SnSSe monolayer for solar cells applications. 2021 , 413487	3
292	Ultrafast valley polarization in bilayer graphene. 2021 , 130, 164301	1
291	Origins of bandgap bowing character in the common-anion transition-metal-dichalcogenide ternary alloyed monolayer: ab initio investigation. 2021 , 23, 103027	2
290	Nanophotonic manipulation of optical angular momentum for high-dimensional information optics.	3
289	Polaritons in an Electron Gas Quasiparticles and Landau Effective Interactions. 2021 , 9, 81	1

- 288 High-yield helicity-resolved Raman scattering with in-plane propagation of light in monolayer MoS₂. **2021**, 119, 153101
- 287 Polarization-Driven Asymmetric Electronic Response of Monolayer Graphene to Polymer Zwitterions Probed from Both Sides. **2021**, 13, 47945-47953 1
- 286 Valley Polarization in Transition-Metal Dichalcogenides by Optical Pumping. **2014**, 269-287
- 285 The valley degree of freedom of an electron. **2015**, 64, 187301 2
- 284 Charge distribution of Li-doped few-layer MoS₂ and comparison to graphene and BN. **2015**, 64, 087102
- 283 Introduction and Background. **2016**, 1-8
- 282 Electron screening lengths and plasma spectrum in single layer MoS₂. **2017**, 66, 247701 2
- 281 Trion Valley Coherence in Transition Metal Dichalcogenides. **2017**,
- 280 Photoluminescence Studies of Excitonic Complexes in Atomically Thin Mo(SySe_{1-y})₂ Alloys. **2017**, 132, 307-312 0
- 279 Analysis of Optical Properties of MoS₂ Monolayer using Minimal-Basis Tight-Binding Models. **2017**, 132, 313-315
- 278 First principles investigation of the Co(0001)/MoS₂ and Ni(111)/WSe₂ interfaces for spin injection in a transition metal dichalcogenide monolayer. **2017**,
- 277 Two-dimensional graphene electronics: current status and prospects. **2018**, 188, 1249-1287 1
- 276 Introduction. **2018**, 1-11
- 275 Large, Valley-Exclusive Bloch-Siegert Shift in Monolayer WS₂. **2018**, 77-92
- 274 Intervalley Biexcitonic Optical Stark Effect in Monolayer WS₂. **2018**, 59-76
- 273 Electronic structure and spin/valley transport properties of monolayer MoS₂ under the irradiation of the off-resonant circularly polarized light. **2018**, 67, 107101
- 272 Dynamics of A-exciton and spin relaxation in WS₂ and WSe₂ monolayer. **2019**, 68, 017201 1
- 271 Stability and electronic structure of hydrogenated two-dimensional transition metal dichalcogenides: First-principles study. **2019**, 68, 037102 3

270	Effect of self-care guidelines on knowledge and quality of life among faculty of nursing students with vaginal infection'. 2019 , 10,	
269	Efficient defect healing of transition metal dichalcogenides by phthalocyanines. 2019 ,	
268	Circularly polarized lasing of ultraviolet plasmonic gammadion nanocavity. 2019 ,	
267	Tunable Berry curvature, valley and spin Hall effect in Bilayer MoS ₂ . 2019 ,	0
266	Coherent growth and characterization of van der Waals 1T'WSe ₂ layers on GaAs(111)B using molecular beam epitaxy. 2020 , 4,	0
265	Strain-induced half-valley metals and topological phase transitions in MBr ₂ monolayers (M=Ru,Os). 2021 , 104,	5
264	Floquet-engineered half-valley-metal state in two-dimensional gapped Dirac materials. 2021 , 104,	1
263	Spin-valley dependent Klein tunneling and perfect spin- and valley-polarized transport in a magnetic WSe ₂ superlattice. 2021 , 104,	0
262	Realizing Optical Persistent Spin Helix and Stern-Gerlach Deflection in an Anisotropic Liquid Crystal Microcavity. 2021 , 127, 190401	1
261	Electrically Tunable and Dramatically Enhanced Valley-Polarized Emission of Monolayer WS at Room Temperature with Plasmonic Archimedes Spiral Nanostructures. 2021 , e2104863	7
260	Research progress of monolayer two-dimensional atomic crystal materials grown by molecular beam epitaxy in ultra-high vacuum conditions. 2020 , 69, 118101	3
259	Phase transition from AuTe surface alloy towards tellurene-like monolayer. 2021 , 8, 015029	2
258	Progress on band structure engineering of twisted bilayer and two-dimensional moiré heterostructures. 2020 , 29, 127304	4
257	Dissipative Berry phase effect in quantum tunneling. 2020 , 102,	
256	Tunable magnetic coupling and high Curie temperature of two-dimensional PtBr ₃ via van der waals heterostructures. 2022 , 572, 151478	1
255	Evaluation of Surface Second Harmonic Generation SSHG for Detection of Antibody-Antigen Interactions. 2020 , 265-270	
254	Monolayer PtSe ₂ . 2020 , 47-56	
253	Introduction. 2020 , 1-26	

252	Tunable contact resistance in transition metal dichalcogenide lateral heterojunctions. 2020 , 4,	1
251	Dynamics of excited interlayer states in hexagonal boron nitride monolayers. 2020 , 53, 203001	3
250	Enhanced valleytronic properties in germanene by direct proximity to heavy metal layer. 2020 , 33, 095502	
249	Quasiparticle band structures and optical properties of twisted bilayer MoS ₂ .	
248	Valley pseudospin relaxation of charged excitons in monolayer MoTe ₂ . 2021 , 33, 025701	0
247	Unveiling defect-mediated carrier dynamics in few-layer MoS ₂ prepared by ion exchange method via ultrafast Vis-NIR-MIR spectroscopy. 2020 , 33, 547-553	1
246	Engineering photonic environments for two-dimensional materials. 2021 , 10, 1031-1058	5
245	Synthesis, characterization, properties and applications of two-dimensional magnetic materials. 2022 , 42, 101338	8
244	Phase Diagram of Electron Hole Liquid in Monolayer Heterostructures Based on Transition Metal Dichalcogenides. 2021 , 133, 494-507	1
243	Fundamentals of Spin Dynamics in Two-Dimensional Materials. 2022 , 13-44	
242	Emergence of Novel 2D Materials for High-Performance Supercapacitor Electrode Applications: A Brief Review.	8
241	Valley-contrasting interband transitions and excitons in symmetrically biased dice model. 2021 , 104,	1
240	Single-valley state in a two-dimensional antiferromagnetic lattice. 2021 , 104,	1
239	Superexchange-induced valley splitting in two-dimensional transition metal dichalcogenides: A first-principles study for rational design. 2021 , 104,	0
238	Spin-valley locked instabilities in moiré transition metal dichalcogenides with conventional and higher-order Van Hove singularities. 2021 , 104,	0
237	Structural Symmetry, Spin-Orbit Coupling, and Valley-Related Properties of Monolayer WSiN Family. 2021 , 12, 11622-11628	3
236	Multidimensional nanoscopic chiroptics.	14
235	Experimental Probing of Canonical Electromagnetic Spin Angular Momentum Distribution via Valley-Polarized Photoluminescence. 2021 , 127, 223601	1

234	Large valley polarization in a novel two-dimensional semiconductor H-ZrX(XCl, Br, I). 2021 , 34,	2
233	Electrically switchable valley polarization, spin/valley filter, and valve effects in transition-metal dichalcogenide monolayers interfaced with two-dimensional ferromagnetic semiconductors. 2021 , 104,	3
232	Highly Photoluminescent Monolayer MoS ₂ and WS ₂ Achieved via Superacid Assisted Vacancy Reparation and Doping Strategy. 2021 , 15, 2100104	0
231	Opportunities in electrically tunable 2D materials beyond graphene: Recent progress and future outlook. 2021 , 8, 041320	4
230	Growth of Two-Dimensional Materials at the Wafer Scale. 2021 , e2108258	9
229	Optical and Electrical Properties of Transition Metal Dichalcogenides (Monolayer and Bulk). 2021 , 295-361	1
228	Time- and momentum-resolved image-potential states of 2H-MoS surface. 2021 , 23, 26336-26342	0
227	Utilizing Valley-Spin Hall Effect in Monolayer WSe ₂ for Designing Low Power Nonvolatile Spintronic Devices and Flip-Flops. 2021 , 1-10	1
226	Synthesis of Photocorrosion-Resistant VS ₄ -MoS ₂ -rGO based Nanocomposite with Efficient Photoelectrochemical Water-Splitting Activity. e202100429	3
225	Excitonic theory of doping-dependent optical response in atomically thin semiconductors. 2022 , 105,	2
224	Surface Charge Transfer Doping of MoS Monolayer by Molecules with Aggregation-Induced Emission Effect.. 2022 , 12,	0
223	Interfacing transition metal dichalcogenides with chromium germanium telluride quantum dots for controllable light-matter interactions.. 2021 , 611, 432-440	1
222	Localized excitons and trions in semiconductor nanosystems. 2022 , 65,	0
221	Photo- and exchange-field controlled line-type resonant peaks and enhanced spin and valley polarizations in a magnetic WSe ₂ junction. 2022 , 55, 165301	0
220	Machine Learning-Based Optimization of Chiral Photonic Nanostructures: Evolution- and Neural Network-Based Designs. 2022 , 16, 2100571	0
219	Intervalley Excitonic Hybridization, Optical Selection Rules, and Imperfect Circular Dichroism in Monolayer h-BN.. 2022 , 128, 047402	0
218	Enhanced Valley Polarization in WS ₂ /LaMnO Heterostructure.. 2022 , 18, e2106029	1
217	Silicene dynamic optical response in the presence of external electric and exchange flds.. 2021 ,	

216	Atomically Thin 2D van der Waals Magnetic Materials: Fabrications, Structure, Magnetic Properties and Applications. 2022 , 12, 122	1
215	Controllable spin direction in nonmagnetic BX/MX ₂ (M = Mo or W; X = S, Se and Te) van der Waals heterostructures by switching between the Rashba splitting and valley polarization. 2021 , 10, 312-320	1
214	Dynamical symmetry and valley-selective circularly polarized high-harmonic generation in monolayer molybdenum disulfide. 2022 , 105,	0
213	Excitonic devices with van der Waals heterostructures: valleytronics meets twistrionics.	15
212	Negative valley polarization in doped monolayer MoSe. 2021 ,	
211	Janus 2H-VSSe monolayer: Two-dimensional valleytronic semiconductor with nonvolatile valley polarization.. 2022 ,	
210	Magnetic field induced valley-polarized quantum anomalous Hall effects in ferromagnetic van der Waals heterostructures. 2022 , 105,	1
209	C _n -symmetric higher-order topological crystalline insulators in atomically thin transition metal dichalcogenides. 2022 , 105,	3
208	Intrinsic Valley Polarization in Computationally Discovered Two-Dimensional Ferrovalley Materials: 1a1 2 and Pr1 2 Monolayers. 2100476	2
207	Valleytronics in two-dimensional materials with line defect.. 2022 ,	0
206	Nanomaterials for Quantum Information Science and Engineering.. 2022 , e2109621	6
205	Bright and Dark Exciton Coherent Coupling and Hybridization Enabled by External Magnetic Fields.. 2022 ,	0
204	One-Interlayer-Twisted Multilayer MoS ₂ Moiré Superlattices. 2111529	2
203	Electrical control of orbital and vibrational interlayer coupling in bi- and trilayer 2HMoS ₂ . 2022 , 6,	0
202	Electronic Structure and Optical Properties of Non-metallic Modified Graphene: A First-principles Study.	1
201	Few-Layer WS ₂ -WSe ₂ Lateral Heterostructures: Influence of the Gas Precursor Selenium/Tungsten Ratio on the Number of Layers.. 2021 ,	2
200	Molybdenum disulfide (MoS ₂)-based nanostructures for tissue engineering applications: prospects and challenges.. 2022 ,	1
199	A review of electronic band structure and low temperature transport based on molybdenum disulfide. 2022 ,	

- 198 A Study of transition metal dichalcogenides/Chromium Trihalides vdW heterostructure based on band unfolding method. **2022**,
- 197 Dielectric screening effect of excitons in 2D semiconductors and its application. **2022**, 0
- 196 Strain lithography for two-dimensional materials by electron irradiation. **2022**, 120, 093104
- 195 Robust growth of two-dimensional metal dichalcogenides and their alloys by active chalcogen monomer supply.. *Nature Communications*, **2022**, 13, 1007 17.4 3
- 194 Valley-selective hot electron injection from metal nanoantennas to MoS₂. **2022**, 105,
- 193 Monolayer CeI₂ : An intrinsic room-temperature ferrovalley semiconductor. **2022**, 105, 6
- 192 Quantum theory of two-dimensional materials coupled to electromagnetic resonators. **2022**, 105, 1
- 191 Valley-contrasting physics in a two-dimensional px,y -orbital honeycomb lattice. **2022**, 105,
- 190 Monitoring the Material Quality of Two-Dimensional Transition Metal Dichalcogenides. **2022**, 126, 3797-3810 0
- 189 Ferroelectric control of pseudospin texture in CuInP₂S₆ monolayer.. **2022**, 1
- 188 Nonlinear optical Hall effect of few-layered NbSe₂. **2022**, 4, 0
- 187 Enhanced Light-Matter Interaction in Two-Dimensional Transition Metal Dichalcogenides.. **2021**, 4
- 186 Atomic and mesoscopic structure of Dy-based surface alloys on noble metals. **2022**, 24, 033048
- 185 Valley Degree of Freedom in Two-Dimensional van der Waals Materials. 3
- 184 Tunable and giant valley-selective Hall effect in gapped bilayer graphene.. **2022**, 375, 1398-1402 2
- 183 Strong Light-Matter Interactions between Gap Plasmons and Two-Dimensional Excitons under Ambient Conditions in a Deterministic Way.. **2022**, 3
- 182 Electronic structure of 2D van der Waals crystals and heterostructures investigated by spatially- and angle-resolved photoemission. **2021**, 22, 107-131
- 181 Spin-Valley Relaxation and Exciton-Induced Depolarization Dynamics of Landau-Quantized Electrons in MoSe₂ Monolayer.. **2022**, 128, 127402

180	Robust all-electrical topological valley filtering using monolayer 2D-Xenes. 2022 , 6,	0
179	Electrically controllable chirality in a nanophotonic interface with a two-dimensional semiconductor. 2022 , 16, 330-336	3
178	Valley-dependent properties in two-dimensional Cr ₂ COF MXene predicted from first principles. 2022 , 6,	1
177	Efficient valley polarization of charged excitons and resident carriers in Molybdenum disulfide monolayers by optical pumping. 2022 , 5,	1
176	Substitutional oxygen activated photoluminescence enhancement in monolayer transition metal dichalcogenides. 2022 , 65, 1034-1041	0
175	Spin dependent charge transfer in MoSe ₂ /hBN/Ni hybrid structures. 2021 , 119, 263103	
174	Two Dimensional Perovskites/Transition Metal Dichalcogenides Heterostructures: Puzzles and Challenges.	1
173	Direct Observation of Room-Temperature Intravalley Coherent Coupling Processes in Monolayer MoS ₂ . 2022 , 16, 2100343	1
172	A room-temperature gate-tunable bipolar valley Hall effect in molybdenum disulfide/tungsten diselenide heterostructures. 2022 , 5, 23-27	2
171	Controllable spin filtering and half-metallicity in α -borophene nanoribbons. 2021 , 104,	0
170	Chiral Zn-Based Organic-Inorganic Hybrid Ferroelectrics with Large Polarization and Luminescence. 2022 , 10, 2101905	5
169	First-principles study of the electrical resistivity in zirconium dichalcogenides with multivalley bands: Mode-resolved analysis of electron-phonon scattering. 2021 , 104,	1
168	Tuning of Optical Behavior in Monolayer and Bilayer Molybdenum Disulfide Using Hydrostatic Pressure.. 2021 , 161-167	1
167	Ab initio calculations of spin-nonconserving exciton-phonon scattering in monolayer transition metal dichalcogenides.. 2022 ,	1
166	Imaging the effect of high photoexcited densities on valley polarization and coherence in MoS ₂ monolayers. 2022 , 6,	
165	Direct Spectroscopic Evidence of Magnetic Proximity Effect in MoS Monolayer on Graphene/Co.. 2022 ,	1
164	Gate-Controlled Quantum Dots Based on 2D Materials. 2100162	2
163	Flexoelectric effect induced p-n homojunction in monolayer GeSe.	2

162	Circularly-polarized-pulse-driven ultrafast optical currents in monolayer hexagonal Boron Nitrite (h-BN). 2022 , 114774	
161	Anomalous valley Hall effect in A -type antiferromagnetic van der Waals heterostructures. 2022 , 105,	2
160	2D materials-enabled optical modulators: From visible to terahertz spectral range. 2022 , 9, 021302	2
159	Conduction band-edge valley splitting in two-dimensional ferroelectric AgBiPS by magnetic doping: towards electron valley-polarized transport.. 2022 , 12, 13765-13773	0
158	Floquet valley-polarized quantum anomalous Hall state in nonmagnetic heterobilayers. 2022 , 105,	3
157	Engineering Plasmonic Environments for 2D Materials and 2D-Based Photodetectors.. 2022 , 27,	1
156	The anisotropic plasmon dispersion and damping in multilayer 8-Pmmn borophene structures.	
155	Theory of Excitons in Atomically Thin Semiconductors: Tight-Binding Approach.. 2022 , 12,	
154	Modulated Photoluminescence of Single-Layer MoS ₂ on Various Rutile TiO ₂ Surfaces: Implications for Photocatalytic Applications.	1
153	Giant Effects of Interlayer Interaction on Valence-Band Splitting in Transition Metal Dichalcogenides.	1
152	Electrical Switching of the Off-Resonance Room-Temperature Valley Polarization in Monolayer MoS ₂ by a Double-Resonance Chiral Microstructure.. 2022 ,	
151	Emerging exciton physics in transition metal dichalcogenide heterobilayers.	7
150	Valley transport driven by dynamic lattice distortion. 2022 , 105,	1
149	Electric control of valley polarization in monolayer WSe using a van der Waals magnet.. 2022 ,	4
148	Exciton moiré potential in twisted WSe ₂ homobilayers modulated by electric field. 2022 ,	
147	Directional Exciton-Energy Transport in a Lateral Heteromonolayer of WSe-MoSe.. 2022 ,	4
146	Gadolinium Halide Monolayers: A Fertile Family of Two-Dimensional 4f Magnets.	0
145	Valley-resolved quantum anomalous Hall effect in ferromagnetically proximitized monolayer MoTe ₂ . 2022 , 105,	0

- 144 Effect of manganese incorporation on the excitonic recombination dynamics in monolayer MoS₂. **2022**, 131, 205306
- 143 Stabilization of Three-Particle Excitations in Monolayer MoS₂ by Fluorinated Methacrylate Polymers. **2022**, 13, 4794-4799
- 142 Jacutingaite family: An efficient platform for coexistence of spin valley Hall effects, valley spin-valve realization, and layer spin crossover. **2022**, 105, 0
- 141 Optically controlled valley-polarized resonance based on monolayer WSe₂ electrical quantumstructure.
- 140 Defect-induced distinct exciton-exciton interactions in WS₂ monolayers. 1
- 139 Protected valley states and generation of valley- and spin-polarized current in monolayer MA₂Z₄. **2022**, 105, 1
- 138 Mechanical Behaviors in Janus Transition-Metal Dichalcogenides: A Molecular Dynamics Simulation. **2022**, 12, 1910 0
- 137 Density functional theory-based quantum-computational analysis on the strain-assisted phononic, electronic, photocatalytic properties and thermoelectric performance of monolayer Janus SnSSe. **2022**, 128, 0
- 136 Magneto-optic effects of monolayer transition metal dichalcogenides induced by ferrimagnetic proximity effect. **2022**, 640, 414073
- 135 Janus transition-metal dichalcogenides heterostructures for highly efficient excitonic solar cells. **2022**, 153835 1
- 134 Evidence for moiré intralayer excitons in twisted WSe₂/WSe₂ homobilayer superlattices. **2022**, 11, 3
- 133 Giant bulk photovoltaic effect driven by the wall-to-wall charge shift in WS₂ nanotubes. *Nature Communications*, **2022**, 13, 17.4 1
- 132 Intrinsic Valley Splitting and Direct-to-Indirect Band Gap Transition in Monolayer HfZrSiCO₂. 5204-5212 4
- 131 A Steady-State Approach for Studying Valley Relaxation Using an Optical Vortex Beam. **2022**, 22, 4712-4717 0
- 130 Spin-Valley Depolarization in van der Waals Heterostructures. **2022**, 13, 5501-5507 0
- 129 Chirality of Valley Excitons in Monolayer Transition-Metal Dichalcogenides. 5894-5899 0
- 128 Plasmon-Induced Hot Carriers: An Atomistic Perspective of the First Tens of Femtoseconds. **2022**, 126, 10015-10023 1
- 127 Ferromagnetism and valley polarization in Janus single-layer VS₂. **2022**, 143, 115341

126	Odd-even layer-number effect of valence-band spin splitting in WTe ₂ . 2022 , 4,		1
125	Chiral phonons entangled with multiple Hall effects and unified convention for pseudoangular momentum in two-dimensional materials. 2022 , 105,		1
124	Electrically and Magnetically Tunable Valley Polarization in Monolayer MoSe ₂ Proximitized by a 2D Ferromagnetic Semiconductor. 2204779		2
123	Polarization-Dependent Selection Rules and Optical Spectrum Atlas of Twisted Bilayer Graphene Quantum Dots. 2022 , 12,		0
122	Nonlocal interactions and supersolidity of moiré excitons. 2022 , 106,		1
121	Electronic structure and adsorption behavior of nonmetallic atoms and aluminum atoms on the surface of graphene: DFT theoretical calculation.		0
120	Prolonging valley polarization lifetime through gate-controlled exciton-to-trion conversion in monolayer molybdenum ditelluride. <i>Nature Communications</i> , 2022 , 13,	17.4	1
119	Optical Detection of Long Electron Spin Transport Lengths in a Monolayer Semiconductor. 2022 , 129,		1
118	Phonon-Limited Valley Polarization in Transition-Metal Dichalcogenides. 2022 , 129,		0
117	Boost Lasing Performances of 2D Semiconductor in a Hybrid Tungsten Diselenide Monolayer/Cadmium Selenide Quantum Dots Microcavity Laser. 2200799		0
116	High-accuracy circular dichroism measurement using a liquid crystal polarization grating. 2022 , 158, 107181		0
115	Ultrafast dynamics of electrons and phonons: from the two-temperature model to the time-dependent Boltzmann equation. 2022 , 7,		0
114	Planar Optical Cavities Hybridized with Low-Dimensional Light-Emitting Materials. 2203889		1
113	Efficient Quadrature Squeezing from Biexcitonic Parametric Gain in Atomically Thin Semiconductors. 2022 , 129,		0
112	Enhancement of valley polarization in CVD grown monolayer MoS ₂ films. 2022 , 121, 072103		0
111	Theoretical studies of valleytronic and optical properties in monolayer MoP ₂ X ₂ Y ₂ (XY=BTe,AlS,. 2022 , 106,		1
110	Enhanced room-temperature spin-valley coupling in V-doped MoS ₂ . 2022 , 6,		1
109	Massive Dirac fermions in moiré superlattices: A route towards topological flat minibands and correlated topological insulators. 2022 , 4,		0

108	Polarized Photoluminescence Enhancement of Monolayer MoS ₂ Coupled with Plasmonic Salisbury-Type Absorber. 2200008	
107	Enhanced valley polarization of graphene on h-BN under circularly polarized light irradiation. 2022, 106,	
106	New Physical Effects Based on Band Structure. 2022, 17-63	
105	Strain-driven valley states and phase transitions in Janus VSiGeN ₄ monolayer. 2022, 121, 063103	2
104	Giant Enhancement and Directional Second Harmonic Emission from Monolayer WS ₂ on Silicon Substrate via Fabry-Pérot Micro-Cavity.	2
103	Integrated Self-powered Sensors Based on 2D Material Devices. 2206900	4
102	Composite excitonic states in doped semiconductors. 2022, 106,	0
101	Modulating the intralayer and interlayer valley excitons in WS ₂ through interaction with AlGaN.	0
100	Sputter deposition of 2D MoS ₂ thin films -A critical review from a surface and structural perspective. 2022, 144, 109848	1
99	High-field Studies on Layered Magnetic and Polar Dirac Metals: Novel Quantum Transport Phenomena Coupled with Spin-valley Degrees of Freedom. 2022, 91,	
98	Full electrostatic management of spin-valley transmission through topological edge states of the hexagonal materials. 2022, 27, 100839	0
97	Stepwise sulfurization of MoO ₃ to MoS ₂ thin films studied by real-time X-ray scattering. 2022, 606, 154772	0
96	Temperature and thickness dependent dielectric functions of MoTe ₂ thin films investigated by spectroscopic ellipsometry. 2022, 605, 154813	2
95	Adsorption of metal atoms on MoSi ₂ N ₄ monolayer: A first principles study. 2022, 152, 107072	2
94	Bandgap analysis of transition-metal dichalcogenide and oxide via machine learning approach. 2022, 171, 110973	0
93	Possibility of regulating valley-contrasting physics and topological properties by ferroelectricity in functionalized arsenene. 2022, 24, 23910-23918	0
92	Intralayer charge-transfer moiré excitons in van der Waals superlattices. 2022, 609, 52-57	3
91	Valley dynamics of different excitonic states in monolayer WSe ₂ grown by molecular beam epitaxy. 2022, 43, 082001	0

- 90 Coupling of ferroelectric and valley properties in 2D materials. **2022**, 132, 120902 ○
- 89 Adsorption behaviour of Al atoms on the surface of perfect and defective graphene: a first principle study. ○
- 88 Spontaneous Valley Polarization and Electrical Control of Valley Physics in Single-Layer TcIrGe₂S₆. **2022**, 13, 8749-8754 ○
- 87 Light-induced topological phases in two-dimensional gapped Dirac materials. **2022**, 106, ○
- 86 Valley selectivity of soft x-ray excitations of core electrons in two-dimensional transition metal dichalcogenides. **2022**, 106, ○
- 85 Chirality-dependent unidirectional routing of WS₂ valley photons in a nanocircuit. 2
- 84 The trilayer exciton emission in WSe₂/WS₂/MoS₂ van der Waals heterostructures. **2022**, 121, 143101 ○
- 83 Optically Controlled Valley Filter and Transistor Based on Transition-Metal Dichalcogenide Planar Heterojunctions. **2022**, 18, 1
- 82 Optically Probing the Asymmetric Interlayer Coupling in Rhombohedral-Stacked MoS₂ Bilayer. **2022**, 12, ○
- 81 Layer-dependent excitonic valley polarization properties in MoS₂-WS₂ heterostructures. ○
- 80 Light-induced topological superconductivity in transition metal dichalcogenide monolayers. **2022**, 106, ○
- 79 All-electrical valley filtering in graphene systems. I. A path to integrated electro-valleytronics. **2022**, 132, 164303 ○
- 78 Effect of stacking type and magnetic moment in spin-valley polarized MoS₂/MoSe₂ heterobilayers. **2022**, 12, 105214 ○
- 77 Modulation of Valley Dynamics in Hybrid H/T Phase Monolayer WSe₂. 2200416 ○
- 76 Optical absorption in lateral transition metal dichalcogenide quantum wells. **2022**, 95, ○
- 75 Observation of room temperature excitons in an atomically thin topological insulator. **2022**, 13, ○
- 74 Tunable magneto-optical properties in MoS₂ via defect-induced exciton transitions. **2022**, 106, 2
- 73 Hydrogenic donor impurity states and intersubband optical absorption spectra in monolayer transition metal dichalcogenides with dielectric environments. ○

- 72 Revealing the nanogeometry of WS₂ nanoflowers by polarization-resolved Raman spectroscopy. **2022**, 132, 173103 ○
- 71 Tailoring the optoelectronic properties of g-C₆N₆/GaTe vdW heterojunction by biaxial strain. **2022**, 130, 109511 ○
- 70 Intensive and broad bound exciton emission at cryogenic temperature in suspended monolayer transition metal dichalcogenides. **2022**, 6, ○
- 69 Spontaneous Valley Polarization Caused by Crystalline Symmetry Breaking in Nonmagnetic LaOMX₂ Monolayers. ○
- 68 Tunable valley band and exciton splitting by interlayer orbital hybridization. **2022**, 8, ○
- 67 Band valley modification under strain in monolayer WSe₂. **2022**, 12, 115023 ○
- 66 Impact of indirect transitions on valley polarization in WS₂ and WSe₂. **2022**, 14, 17761-17769 ○
- 65 Effect of alkali metal adsorption over pristine Ga₂STe janus monolayer in enhancing the visible region absorption. **2023**, 173, 207463 ○
- 64 Time- and angle-resolved photoemission spectroscopy (TR-ARPES) of TMDC monolayers and bilayers. ○
- 63 Mixed dimensional Transition Metal Dichalcogenides (TMDs) vdW Heterostructure based Photodetectors: A review. **2023**, 269, 111926 ○
- 62 Effects of CVD growth parameters on global and local optical properties of MoS₂ monolayers. **2023**, 296, 127185 ○
- 61 Revealing Berry curvature of the unoccupied band in high harmonic generation. **2022**, 106, ○
- 60 Nanostructure-free MetalDielectric Stacks for Raman Scattering Enhancement and Defect Identification in CVD-Grown Tungsten Disulfide (2H-WS₂) Nanosheets. **2022**, 126, 20511-20523 ○
- 59 Two-dimensional superconducting MoSi₂N₄(MoN)_{4n} homologous compounds. 1
- 58 Nonvolatile Electrical Valley Manipulation in WS₂ by Ferroelectric Gating. 1
- 57 Edge Reconstruction-Dependent Growth Kinetics of MoS₂. ○
- 56 Growth Mechanism of Single-Domain Monolayer MoS₂ Nanosheets on Au(111) Revealed by In Situ Microscopy: Implications for Optoelectronics Applications. **2022**, 5, 17702-17710 ○
- 55 Spin and valley polarization of an MoS₂ zigzag nanoribbon with a magnetic barrier via Fano resonance. **2022**, 106, ○

54	Semiconductor Bloch equation analysis of optical Stark and Bloch-Siegert shifts in monolayer WSe ₂ and MoS ₂ . 2022 , 106,	1
53	Confocal Raman microscope with versatile dual polarization snapshot acquisition. 2022 , 30, 46734	o
52	Polarization-dependent electronic structure of Ag quantum well states on the MoS ₂ (0001) surface using ARPES and DFT studies. 2022 , 106,	o
51	Anisotropic exciton drift-diffusion in a monolayer WS ₂ xSe(2-2x) alloy with a gradually changing composition.	o
50	Diabatic and adiabatic transitions between Floquet states imprinted in coherent exciton emission in monolayer WSe ₂ . 2022 , 8,	o
49	Photonic effects in the non-equilibrium optical response of two-dimensional semiconductors. 2023 , 31, 107	o
48	En Route to High-Density Chiral Single-walled Carbon Nanotube Arrays using Solid Trojan Catalysts. 2205540	o
47	Chirality logic gates. 2022 , 8,	o
46	Spontaneous Valley Polarization in a Ferromagnetic Fe(OH) ₂ Monolayer. 2022 , 13, 11543-11550	o
45	Magnetic proximity controlled Rashba and valley splittings in monolayer Janus ZrNX/VTe ₂ (X = Br, I) heterostructure. 2022 , 115616	o
44	Two/Quasi-two-dimensional Perovskite-based Heterostructures: Construction, Properties and Applications.	o
43	Recent Advances in 2D TMDs Circular Photo-galvanic Effect.	o
42	Magneto-Optical Chirality in a Coherently Coupled Exciton-Plasmon System.	o
41	Electrical tuning of valley polarization in monolayer transition metal dichalcogenides. 2023 , 107,	o
40	Valley physics and anomalous valley Hall effect in single-layer hMNX (M=Ti, Zr, Hf; X. 2023 , 107,	o
39	Enhanced Intrinsic Anomalous Valley Hall Effect Induced by Spin-Orbit Coupling in MXene Monolayer M ₃ N ₂ O ₂ (M = Y, La). 2023 , 14, 132-138	o
38	Orbital contribution to the regulation of the spin-valley coupling in antiferromagnetic monolayer MnPTe ₃ . 2023 , 107,	o
37	Large spontaneous valley polarization and high magnetic transition temperature in stable two-dimensional ferrovalley YX ₂ (X=I, Br, and). 2023 , 107,	o

- 36 Negative Valley Polarization of the Intralayer Exciton via One-Step Growth of H-Type Heterobilayer WS₂/MoS₂. ○
- 35 Momentum-Resolved Exciton Coupling and Valley Polarization Dynamics in Monolayer WS₂. **2023**, 130, ○
- 34 Gate tunable spatial accumulation of valley-spin in chemical vapor deposition grown 40°-twisted bilayer WS₂. **2023**, 44, 012001 ○
- 33 Tunable Valley and Spin Splittings in VSi₂N₄ Bilayers. **2023**, 23, 858-862 ○
- 32 The Interaction of 2D Materials With Circularly Polarized Light. 2206191 ○
- 31 Optical spectroscopy study of two-dimensional materials. **2023**, 305-335 ○
- 30 Combined piezoelectricity, valley splitting and Dzyaloshinskii-Moriya interaction in Janus GdXY (X, Y = Cl, Br, I) magnetic semiconductors. **2023**, 25, 8600-8607 ○
- 29 Charge quenching at defect states in transition metal dichalcogenide-graphene van der Waals heterobilayers. **2023**, 107, ○
- 28 Tunable valley characteristics of WSe₂ and WSe₂/VSe₂ heterostructure. **2023**, 624, 157111 ○
- 27 Realizing spontaneous valley polarization and topological phase transitions in monolayer ScX₂ (X = Cl, Br, I). **2023**, 246, 118731 ○
- 26 Universal epitaxy of non-centrosymmetric two-dimensional single-crystal metal dichalcogenides. **2023**, 14, ○
- 25 Graphene/MoS₂-Nanoribbons/Graphene Field-Effect Photodetectors: A Numerical Study. **2023**, 52, 3046-3057 ○
- 24 Layered Semiconductor Cr_{0.32}Ga_{0.68}Te_{2.33} with Concurrent Broken Inversion Symmetry and Ferromagnetism: A Bulk Ferrovalley Material Candidate. **2023**, 145, 4683-4690 ○
- 23 Structure-controlled valley splitting and anomalous valley Hall effect in Janus VSe₂/VSeX (X = S, Te) heterojunctions. **2023**, 56, 135301 ○
- 22 Enhancement of Valley Polarization in Monolayer WSe₂ Coupled with Microsphere-Cavity-Array. 2213933 ○
- 21 Interface Engineering Modulated Valley Polarization in MoS₂/hBN Heterostructure. **2023**, 13, 861 ○
- 20 External field regulation strategies for exciton dynamics in 2D TMDs. **2023**, 13, 1007 ○
- 19 Photoluminescence manipulation in two-dimensional transition metal dichalcogenides. **2023**, ○

- 18 Persistent room-temperature valley polarization in graphite-filtered WS₂ monolayer. **2023**, 10, 025023 ○
- 17 Symmetry-dependent antiferromagnetic proximity effects on valley splitting. **2023**, 107, ○
- 16 All-Optical Ultrafast Valley Switching in Two-Dimensional Materials. **2023**, 19, ○
- 15 Strain-tuned spin polarization and optical conductivity in MoS₂/EuS heterostructures. **2023**, 107, ○
- 14 Controlled coherent-coupling and dynamics of exciton complexes in a MoSe₂ monolayer. **2023**, 10, 025027 1
- 13 Every-other-layer dipolar excitons in a spin-valley locked superlattice. 1
- 12 Ultrafast valley-selective coherent optical manipulation with excitons in WSe₂ and MoS₂ monolayers. **2023**, 7, ○
- 11 A photonic integrated chip platform for interlayer exciton valley routing. **2023**, 133, 123104 ○
- 10 Influence of defects on the valley polarization properties of monolayer MoS₂ grown by chemical vapor deposition. **2023**, 107, ○
- 9 Optical detection of valley-polarized electron diffusion in diamond. **2023**, 3, 025001 ○
- 8 Direct Growth of Monolayer WS₂ on Rutile TiO₂ for Enhanced Valley Coherence. **2023**, 127, 7425-7432 ○
- 7 Rydberg Excitons and Trions in Monolayer MoTe₂. ○
- 6 Asymmetric transmission in nanophotonics. **2023**, ○
- 5 Tuning of Interlayer Interaction in MoS₂/WS₂ van der Waals Heterostructures Using Hydrostatic Pressure. ○
- 4 Valleytronics. **2023**, 28, 537-546 ○
- 3 Distinct ferrovalley characteristics of the Janus RuCl_X (X = F, Br) monolayer. ○
- 2 High throughput calculations for a dataset of bilayer materials. **2023**, 10, ○
- 1 Revealing the two-dimensional electronic structure and anisotropic superconductivity in a natural van der Waals superlattice (PbSe) 1.14NbSe₂. **2023**, 7, ○

