

# Gunvant K Solanki

## List of Publications by Year in descending order

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116  
papers

1,960  
citations

218677

26  
h-index

302126

39  
g-index

116  
all docs

116  
docs citations

116  
times ranked

1813  
citing authors

#	ARTICLE	IF	CITATIONS
1	Pressure induced metallization with absence of structural transition in layered molybdenum diselenide. Nature Communications, 2015, 6, 7312.	12.8	193
2	Paper-Based Flexible Photodetector Functionalized by WSe <sub>2</sub> Nanodots. ACS Applied Nano Materials, 2019, 2, 2758-2766.	5.0	106
3	Electrophoretically Deposited MoSe <sub>2</sub> /WSe <sub>2</sub> Heterojunction from Ultrasonically Exfoliated Nanocrystals for Enhanced Electrochemical Photoresponse. ACS Applied Materials & Interfaces, 2019, 11, 4093-4102.	8.0	57
4	Influence of alloy engineering on structural and photo detection properties of SbXSn <sub>1-X</sub> Se <sub>2</sub> ternary alloys. Applied Surface Science, 2018, 462, 856-861.	6.1	56
5	2D-SnSe <sub>2</sub> Nanosheet Functionalized Piezo-resistive Flexible Sensor for Pressure and Human Breath Monitoring. ACS Sustainable Chemistry and Engineering, 2020, 8, 7741-7749.	6.7	54
6	Crystal growth, characterization and photo detection properties of 2H <sub>0.75</sub> W <sub>0.25</sub> Se <sub>2</sub> ternary alloy with 1T <sub>0.5</sub> Se <sub>2</sub> secondary phase. Materials Research Express, 2017, 4, 106306.	1.6	50
7	Paper based organic-inorganic hybrid photodetector for visible light detection. Applied Surface Science, 2020, 524, 146589.	6.1	49
8	Highly sensitive and flexible pressure sensor based on two-dimensional MoSe <sub>2</sub> nanosheets for online wrist pulse monitoring. Journal of Colloid and Interface Science, 2021, 584, 495-504.	9.4	49
9	Orthorhombic SnSe Nanocrystals for Visible-Light Photodetectors. ACS Applied Nano Materials, 2020, 3, 11143-11151.	5.0	44
10	Title is missing!. Journal of Materials Science Letters, 2003, 22, 985-987.	0.5	40
11	Photovoltaic activity of WSe <sub>2</sub> /Si hetero junction. Materials Research Bulletin, 2019, 120, 110602.	5.2	40
12	Flexible paper based piezo-resistive sensor functionalised by 2D-WSe <sub>2</sub> nanosheets. Nanotechnology, 2020, 31, 435503.	2.6	39
13	Flexible piezo-resistive pressure sensor based on conducting PANI on paper substrate. Synthetic Metals, 2021, 273, 116697.	3.9	38
14	Excitonic emission and absorption resonances in W <sub>0.25</sub> W <sub>0.75</sub> Se <sub>2</sub> single crystals grown by direct vapour transport technique. Journal of Crystal Growth, 2016, 441, 101-106.	1.5	37
15	Sonochemical exfoliation and photodetection properties of MoS <sub>2</sub> Nanosheets. Materials Science in Semiconductor Processing, 2019, 98, 13-18.	4.0	37
16	WSe <sub>2</sub> -PANI nanohybrid structure as efficient electrocatalyst for photo-enhanced hydrogen evolution reaction. Journal of Alloys and Compounds, 2021, 876, 160179.	5.5	36
17	Solution-Processed Uniform MoSe <sub>2</sub> /WSe <sub>2</sub> Heterojunction Thin Film on Silicon Substrate for Superior and Tunable Photodetection. ACS Sustainable Chemistry and Engineering, 2020, 8, 4809-4817.	6.7	35
18	Temperature-dependent vibrational properties of DVT grown orthorhombic SnS single crystals and their application as a self-powered photodetector. Applied Surface Science, 2020, 531, 147406.	6.1	34

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19	Tunable and anisotropic photoresponse of layered Re <sub>0.2</sub> Sn <sub>0.8</sub> Se <sub>2</sub> ternary alloy. Solar Energy Materials and Solar Cells, 2019, 200, 109936.	6.2	33
20	Transport property measurements in tungsten sulphoselenide single crystals grown by a CVT technique. Crystal Research and Technology, 2008, 43, 179-185.	1.3	32
21	Low-Temperature Raman Investigations and Photoresponse of a Detector Based on High-Quality WSe <sub>2</sub> Crystals. Journal of Physical Chemistry C, 2020, 124, 2251-2257.	3.1	32
22	Transient photo-response properties of CdTe thin films synthesized by screen printing technique. Materials Science in Semiconductor Processing, 2017, 71, 226-231.	4.0	31
23	Humidity Sensor Based on Two-Dimensional SnSe <sub>2</sub> /MWCNT Nanohybrids for the Online Monitoring of Human Respiration and a Touchless Positioning Interface. ACS Sustainable Chemistry and Engineering, 2020, 8, 12595-12602.	6.7	31
24	Investigation of structural, electrical and optical properties of Sb <sub>1-x</sub> W <sub>x</sub> Se <sub>2</sub> single crystals. Materials Science in Semiconductor Processing, 2018, 81, 108-112.	4.0	30
25	Rhenium substitutional doping for enhanced photoresponse of n-SnSe <sub>2</sub> /p-Si heterojunction based tunable and high-performance visible-light photodetector. Applied Surface Science, 2021, 536, 147739.	6.1	30
26	Transferrable thin film of ultrasonically exfoliated MoSe <sub>2</sub> nanocrystals for efficient visible-light photodetector. Physica E: Low-Dimensional Systems and Nanostructures, 2020, 119, 114019.	2.7	29
27	Investigation of morphological and structural properties of V incorporated SnSe <sub>2</sub> single crystals. Materials Science in Semiconductor Processing, 2018, 80, 137-142.	4.0	28
28	Alloy engineering for enhanced photodetection in V <sub>x</sub> Sn <sub>1-x</sub> Se <sub>2</sub> ternary crystals. Materials Letters, 2018, 221, 35-37.	2.6	28
29	Optical band gap in tungsten diselenide single crystals intercalated by indium. Materials Letters, 2000, 43, 66-72.	2.6	27
30	Fabrication, photoresponse and temperature dependence of n-VO <sub>2</sub> /n-MoSe <sub>2</sub> heterojunction diode. Superlattices and Microstructures, 2019, 130, 160-167.	3.1	26
31	Synergistic 2D MoSe <sub>2</sub> @WSe <sub>2</sub> nanohybrid heterostructure toward superior hydrogen evolution and flexible supercapacitor. Nanoscale, 2022, 14, 6636-6647.	5.6	23
32	Anisotropic study of photo-bolometric effect in Sb <sub>0.15</sub> Ge <sub>0.85</sub> Se ternary alloy at low temperature. Journal of Alloys and Compounds, 2020, 846, 156391.	5.5	22
33	Layer-engineered I-V characteristics of p-Si/WS <sub>2</sub> Van der Waals Heterostructure diode. European Physical Journal Plus, 2017, 132, 1.	2.6	21
34	Giant humidity responsiveness of WSe <sub>2</sub> nanosheets for novel electronic listening and touchless positioning interface. Journal of Materials Science: Materials in Electronics, 2019, 30, 3137-3143.	2.2	21
35	Flexible Self-Powered Electrochemical Photodetector Functionalized by Multilayered Tantalum Diselenide Nanocrystals. Advanced Optical Materials, 2021, 9, 2100993.	7.3	21
36	Enhanced electrical and optoelectronic performance of SnS crystal by Se doping. Journal of Alloys and Compounds, 2021, 883, 160941.	5.5	20

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37	Photosensitive Schottky barrier diodes based on Cu/p-SnSe thin films fabricated by thermal evaporation. <i>Materials Advances</i> , 2022, 3, 2425-2433.	5.4	18
38	Electronic structure of germanium selenide investigated using ultra-violet photo-electron spectroscopy. <i>Semiconductor Science and Technology</i> , 2015, 30, 075001.	2.0	17
39	Growth, characterization and photoconduction properties of Sb <sub>0.1</sub> Mo <sub>0.9</sub> Se <sub>2</sub> single crystals grown by DVT technique. <i>Materials Science in Semiconductor Processing</i> , 2018, 88, 1-9.	4.0	17
40	Humidity sensor based on Sb <sub>0.1</sub> Sn <sub>0.9</sub> Se <sub>2</sub> ternary alloy for human breath monitoring and touchless positioning interface. <i>European Physical Journal Plus</i> , 2019, 134, 1.	2.6	17
41	Promoting photoresponse of resistive detector based on V <sub>0.15</sub> Sn <sub>0.85</sub> Se <sub>2</sub> ternary alloy. <i>Materials Science in Semiconductor Processing</i> , 2019, 91, 383-386.	4.0	17
42	Self-powered photodetector based on SnSe <sub>2</sub> /MoSe <sub>2</sub> heterostructure. <i>Materials Today Energy</i> , 2020, 18, 100550.	4.7	17
43	Photocatalytic degradation of organic dyes by Ni (25%) doped WSe <sub>2</sub> nanosheets. <i>Materials Science in Semiconductor Processing</i> , 2021, 125, 105625.	4.0	17
44	Growth and surface topography of WSe <sub>2</sub> single crystal. <i>AIP Conference Proceedings</i> , 2016, , .	0.4	16
45	Growth and application of WSe <sub>2</sub> single crystal synthesized by DVT in thin film hetero-junction photodetector. <i>European Physical Journal B</i> , 2019, 92, 1.	1.5	16
46	Temperature-Dependent Iâ€“V Characteristics of In/p-SnSe Schottky Diode. <i>Journal of Electronic Materials</i> , 2021, 50, 5217.	2.2	16
47	Ultrasonically Exfoliated Nanocrystal-Based Z-Scheme SnSe <sub>2</sub> /WSe <sub>2</sub> Heterojunction for a Superior Electrochemical Photoresponse. <i>Journal of Physical Chemistry C</i> , 2021, 125, 14729-14740.	3.1	14
48	Electrophoretic deposition of MoS <sub>2</sub> nanosheets for photoelectrochemical type photodetector. <i>Optical Materials</i> , 2022, 125, 112097.	3.6	14
49	X-ray Diffraction Analysis of Hexagonal Klockmannite CuSe Nanoparticles for Photodetectors under UV Light. <i>Journal of Physical Chemistry C</i> , 2021, 125, 3517-3526.	3.1	13
50	Optical Switching Device Based on a Crystalline SnSe <sub>2</sub> Photodetector in Diverse Conditions. <i>ACS Applied Electronic Materials</i> , 2021, 3, 4859-4869.	4.3	13
51	Fabrication and photoresponse of n- $\text{WS}_2$ / p- $\text{V}_{0.25}\text{WS}_2$ . <i>Pramana - Journal of Physics</i> , 2018, 91, 1.	1.8	12
52	Low temperature anisotropic photoresponse study of bulk ZrS <sub>3</sub> single crystal. <i>Sensors and Actuators A: Physical</i> , 2021, 331, 112969.	4.1	12
53	Band gap in tungsten sulphoselenide single crystals determined by the optical absorption method. <i>Materials Science in Semiconductor Processing</i> , 2005, 8, 576-586.	4.0	11
54	Pressure dependence electrical resistivity in DVT grown molybdenum dichalcogenides. <i>High Pressure Research</i> , 2008, 28, 133-140.	1.2	11

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55	Superior electrochemical activity of CdSe thin film by chromium substitutional doping. Journal of Alloys and Compounds, 2021, 862, 158016.	5.5	11
56	Photocatalytic degradation of methylene blue and crystal violet dyes under UV light irradiation by sonochemically synthesized CuSnSe nanocrystals. European Physical Journal Plus, 2021, 136, 1.	2.6	11
57	Annealing induced phase transformation from amorphous to polycrystalline SnSe <sub>2</sub> thin film photo detector with enhanced light-matter interaction. Journal of Non-Crystalline Solids, 2022, 578, 121353.	3.1	11
58	Growth and transport property measurements of rhenium doped tungsten diselenide single crystal. Materials Chemistry and Physics, 2009, 117, 350-354.	4.0	10
59	Low temperature electrical transport properties in p-SnSe single crystals. EPJ Applied Physics, 2011, 53, 10302.	0.7	10
60	Tuning of photodetection properties of V <sub>0.5</sub> Sn <sub>0.5</sub> Se <sub>2</sub> ternary alloy. Materials Research Express, 2018, 5, 056207.	1.6	8
61	Investigation of anisotropic photoresponse in Re <sub>0.2</sub> Sn <sub>0.8</sub> Se <sub>2</sub> ternary alloy at low temperature conditions. Journal of Materials Science: Materials in Electronics, 2020, 31, 11123-11130.	2.2	8
62	Liquid-phase exfoliation of WSe <sub>2</sub> nanosheets for ITO/WSe <sub>2</sub> photodetector. Journal of Materials Science: Materials in Electronics, 2022, 33, 10314-10322.	2.2	8
63	Two- and three-dimensional models for analysis of optical absorption in tungsten disulphide single crystals. Bulletin of Materials Science, 2001, 24, 291-296.	1.7	7
64	Flat band potential determination of NbSe <sub>2</sub> photoelectrode using Mott-Schottky plot. AIP Conference Proceedings, 2019, , .	0.4	7
65	Sonochemical exfoliation, characterization and photoresponse of MoS <sub>0.5</sub> Se <sub>1.5</sub> nanosheets. Journal of Materials Science: Materials in Electronics, 2021, 32, 11805-11812.	2.2	7
66	Synthesis and Photodetection Properties of Sonochemically Exfoliated Cu <sub>0.2</sub> Sn <sub>0.8</sub> Se Nanoparticles. Journal of Nano- and Electronic Physics, 2020, 12, 02005-1-02005-5.	0.5	7
67	Photodetector based on liquid phase exfoliated SnSe quantum dots. Optical Materials, 2022, 125, 112110.	3.6	7
68	Synthesis and characterization of germanium monosulphide (GeS) single crystals grown using different transporting agents. Pramana - Journal of Physics, 2010, 74, 813-825.	1.8	6
69	Temperature-dependent vibrational properties of Sb <sub>x</sub> Sn <sub>1-x</sub> Se <sub>2</sub> (x = 0, 0.1, 0.2 & 0.3) ternary alloys. European Physical Journal Plus, 2020, 135, 1.	2.6	6
70	Wavelength dependent anisotropic photosensing activity of zirconium trisulfide crystal. Journal of Materials Science: Materials in Electronics, 2022, 33, 8417-8425.	2.2	6
71	Mechanism of conduction in TTF and TMTSF organic conductors from a study of their vibrational spectra. Indian Journal of Physics, 2010, 84, 1527-1540.	1.8	5
72	Structural and electrical properties of Sb <sub>x</sub> W <sub>1-x</sub> Se <sub>2</sub> (0, 0.5) ternary alloys. Materials Research Express, 2019, 6, 055917.	1.6	5

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73	The influence of antimony doping on $V$ , $V-f$ and $(G/w)-V-f$ characteristics of indium/ Sb <sub>1-X</sub> Se <sub>2</sub> (X=0, 0.1, 0.5) alloy Schottky diodes. Superlattices and Microstructures, 2020, 137, 106348.	3.1	5
74	Enhanced visible-light photoresponse of DVT-grown Ni-doped SnSe crystal. Journal of Materials Science: Materials in Electronics, 2022, 33, 10086-10095.	2.2	5
75	Effect of pressure on optical and electrical properties of tungsten diselenide single crystals. High Pressure Research, 2004, 24, 255-261.	1.2	4
76	Kuhn Periodicity in Oligoanilines and Oligoaniline-Iodine Complexes. Molecular Crystals and Liquid Crystals, 2005, 442, 167-180.	0.9	4
77	Growth and Electrical Characterizations of Sn <sub>0.3</sub> Se <sub>0.7</sub> Crystals Grown by Direct Vapour Transport Technique. Advanced Materials Research, 0, 1141, 103-106.	0.3	4
78	Transient photoresponse of infrared photodetector based on Sb <sub>0.1</sub> Sn <sub>0.9</sub> Se <sub>2</sub> ternary alloy. Materials Research Express, 2019, 6, 065906.	1.6	4
79	Effect of off-stoichiometry on properties of tin selenide crystals. Bulletin of Materials Science, 2019, 42, 1.	1.7	4
80	High performance humidity sensor based on V <sub>0.5</sub> Sn <sub>0.5</sub> Se <sub>2</sub> ternary alloy. Journal of Materials Science: Materials in Electronics, 2019, 30, 6065-6070.	2.2	4
81	Self-standing polyvinyl chloride film as flexible substrate for WSe <sub>2</sub> based photodetector. Current Applied Physics, 2022, 39, 140-146.	2.4	4
82	Low temperature Hall effect studies of InSb thin films grown by flash evaporation. EPJ Applied Physics, 2011, 54, 10303.	0.7	3
83	Growth, morphological properties and pulsed photo response of MoTe <sub>2</sub> single crystal synthesized by DVT technique. AIP Conference Proceedings, 2018, , .	0.4	3
84	Tunable anisotropic pulse photo response of ZrS <sub>3</sub> crystal at cryogenic temperatures. Physica B: Condensed Matter, 2022, 633, 413775.	2.7	3
85	Performance evaluation of tungsten sulphoselenides as a material for non-conventional energy devices. Materials Letters, 2007, 61, 3511-3515.	2.6	2
86	Study of structural, electrical, and optical properties of nickel-doped tin selenide crystals. Canadian Journal of Physics, 2016, 94, 212-217.	1.1	2
87	Preparation of H <sub>2</sub> SO <sub>4</sub> doped Polyaniline thin film solar cells by spin coating technique. AIP Conference Proceedings, 2017, , .	0.4	2
88	Effect of doping on all TMC vertical heterointerfaces. AIP Conference Proceedings, 2018, , .	0.4	2
89	Study of liquid-phase ultrasonically exfoliated Cu <sub>0.4</sub> Sn <sub>0.6</sub> Se ternary alloy nanoparticles-based photodetector. Journal of Materials Science: Materials in Electronics, 2022, 33, 8361-8367.	2.2	2
90	Enhancement in the transient visible light anisotropic photoresponse of cobalt-incorporated tungsten diselenide ternary alloy. International Journal of Energy Research, 0, , .	4.5	2

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91	Study of temperature dependent phonon properties of Sb <sub>x</sub> Ge <sub>1-x</sub> Se (x = 0.00 and 0.15) crystals. Physica B: Condensed Matter, 2022, 625, 413474.	2.7	2
92	Superior Cryotronics Performance of the In/p-WSe <sub>2</sub> Schottky Interface. ACS Applied Electronic Materials, 2022, 4, 1633-1641.	4.3	2
93	Quantitative analysis of temperature-dependent vibrational properties of Cobalt incorporated WSe <sub>2</sub> ternary alloy. Journal of Solid State Chemistry, 2022, 314, 123359.	2.9	2
94	High pressure studies on layered semiconductor germanium sulphide single crystals grown using different techniques. High Pressure Research, 2001, 21, 15-29.	1.2	1
95	Effect of enhancement of selenium content in zirconium sulphoselenide on its photoelectrochemical behaviour. Indian Journal of Physics, 2009, 83, 275-284.	1.8	1
96	Growth and thermal properties of GeSePb <sub>0.4</sub> single crystals. , 2012, , .		1
97	Structural and Thermal Properties of Cu Doped Nanocrystalline Tin Selenide. Advanced Materials Research, 0, 665, 15-21.	0.3	1
98	Growth and photo-response of NbSe <sub>2</sub> and NbS <sub>2</sub> crystals. AIP Conference Proceedings, 2018, , .	0.4	1
99	Growth and application of Sb <sub>0.5</sub> Mo <sub>0.5</sub> Se <sub>2</sub> ternary alloy as photodetector. Materials Letters: X, 2019, 2, 100013.	0.7	1
100	Enhanced optoelectronics performances of multilayer Sb <sub>0.1</sub> Mo <sub>0.9</sub> Se <sub>2</sub> /SnSe <sub>2</sub> heterostructure. Journal of Materials Science: Materials in Electronics, 2021, 32, 28739-28749.	2.2	1
101	Optothermal and temperature reliant phonon dynamics probed by Raman spectroscopy. Physica B: Condensed Matter, 2022, , 414074.	2.7	1
102	High Pressure Studies of as Grown WX <sub>2-x</sub> Single Crystals. Journal of Physics: Conference Series, 2012, 377, 012017.	0.4	0
103	Growth, Structural and High Pressure Study of GeS <sub>0.25</sub> Se <sub>0.75</sub> and GeS <sub>0.75</sub> Se <sub>0.25</sub> Single Crystals. Advanced Materials Research, 0, 665, 37-42.	0.3	0
104	Structural and Electrical Properties of ZnTe Thin Films Deposited at Various Substrate Temperatures. Advanced Materials Research, 2013, 665, 80-84.	0.3	0
105	Growth and Optical Characterization of DVT Grown SnSe <sub>0.5</sub> Te <sub>0.5</sub> Single Crystals. Advanced Materials Research, 0, 665, 29-36.	0.3	0
106	DVT Grown GeSe Single Crystals and their Thermal Parameters in N <sub>2</sub> . Advanced Materials Research, 0, 665, 8-14.	0.3	0
107	Photosensitive space charge limited current in screen printed CdTe thin films. AIP Conference Proceedings, 2018, , .	0.4	0
108	Investigation of transient photoresponse of WSSe ternary alloy crystals. AIP Conference Proceedings, 2018, , .	0.4	0

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109	Anisotropy of electrical resistivity in PVT grown WSe <sub>2</sub> x crystals. Indian Journal of Physics, 2018, 92, 615-618.	1.8	0
110	Optoelectronic devices based on chemical vapour transport grown NbSe <sub>2</sub> crystals. AIP Conference Proceedings, 2019, , .	0.4	0
111	Structural characterization of layered tin mono-selenide crystals doped with copper grown by DVT technique. AIP Conference Proceedings, 2020, , .	0.4	0
112	Transient photo-response properties of pristine MoTe <sub>2</sub> crystals synthesized by direct vapor transport technique. AIP Conference Proceedings, 2020, , .	0.4	0
113	A study of optical band gap in GeS <sub>x</sub> Se <sub>1-x</sub> , (x = 0, 0.5, 1) single crystals grown using chemical vapour transport technique. Pramana - Journal of Physics, 2021, 95, 1.	1.8	0
114	Investigation of structural, electrical and optical properties of SnS <sub>0.75</sub> Se <sub>0.25</sub> ternary alloy crystals. Journal of Materials Science: Materials in Electronics, 0, , 1.	2.2	0
115	Surface topography and enhanced photo detecting properties of multilayer MoSe <sub>2</sub> crystal. EPJ Applied Physics, 2022, 97, 8.	0.7	0
116	Polaron hopping in some biomolecular solids and their charge transfer complexes. Indian Journal of Biochemistry and Biophysics, 2008, 45, 421-9.	0.0	0