

Dr. Sheetal Sharma

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Curriculum Vitae

ACADEMIC & PROFESSIONAL QUALIFICATION

| Examination | Name of the Institute | University | Year | Percentage | Division |
|--------------------|------------------------------|------------------------|-------------|-------------------|-----------------|
| PhD | Deptt. Of Physics | Panjab University, Chd | Jan 2015 | - | - |
| M.Phil | Deptt. Of Physics | Panjab University, Chd | 2007-08 | | Ist |
| M.Sc.(Physics) | Deptt. Of Physics | G.N.D.U. Amritsar | 2009 | 72% | Ist |
| B.Ed | Vivekananda College of Edu. | University of Jammu | 2004-05 | 60.1% | 1st |
| UGC- CSIR(JRF) | | Delhi | 01-12-07 | | |

NATIONAL/INTERNATIONAL PUBLICATIONS

1. Review on E-waste management and its impact on the environment and society. Muskan Jain , Depak Kumar , Jyoti Chaudhary , Sudesh Kumar , **Sheetal Sharma** , Ajay Singh Verma, **Waste Management Bulletin 1 (2023) 34-44**
2. Alkaline earth based antiperovskite AsPX₃ (X = Mg, Ca, and Sr) materials for energy conversion efficient and thermoelectric applications. Upasana Rani , Peeyush Kumar Kamlesh , Tarun Kumar Joshi , **Sheetal Sharma** , Rajeev Gupta , Samah Al-Qaisi and Ajay Singh Verma. **Phys. Scr. 98 (2023) 075902.**
3. Computational investigation of inverse perovskite SbPX₃ (X = Mg, Ca, and Sr) structured materials with applicability in green energy resources. Upasana Rani, Peeyush Kumar Kamlesh , Tarun Kumar Joshi, Rashmi Singh , **Sheetal Sharma** , Rajeev Gupta, Tanuj Kumar , Ajay Singh Verma. **Computational Condensed Matter 36 (2023) e00835.**
4. Ab initio studies of structural, electronic, optical, elastic and thermal properties of CuGaTe₂. P Singh, **S Sharma**, S Kumari, VK Saraswat, D Sharma, AS Verma. Semiconductors 51(5):679-687. DOI: 10.1134/S1063782617050232, 2017.
5. Investigation of fundamental physical properties of CdSiP₂ and its application in solar cell devices by using (ZnX; X= Se, Te) buffer layers, AS Verma, R Gautam, P Singh, **Sheetal Sharma**, S Kumari, Materials Science and Engineering: B 205, 18-27. **I.F-2.31** ISSN: 0921-5107 March 2016.
6. Simulated solar cell device of CuGaSe₂ by using CdS, ZnS and ZnSe buffer layers, Pravesh Singh, Ruchita Gautam, **Sheetal Sharma**, Sarita Kumari, AS Verma, Materials Science in Semiconductor Processing 42, 288-302 (2016). **I.F-2.21** ISSN: 1369-8001 February 2016.
7. Structural, electronic, optical, elastic and thermal properties of CdGeP₂ with the application in solar cell devices, Ruchita Gautam, Pravesh Singh, **Sheetal Sharma**, Sarita Kumari, AS Verma, Materials Science in Semiconductor Processing 40, 727-736 (2015). **I.F-2.21** ISSN: 1369-8001 september 2015

8. Structural, electronic, optical, elastic and thermal properties of CdSnP₂ with the application in solar cell devices, Ruchita Gautam, Pravesh Singh, **Sheetal Sharma**, Sarita Kumari, AS Verma, Superlattices and Microstructures 85, 859-871 (2015). **I.F-2.21** ISSN: 0749-6036 November 2015
9. Structural, electronic, optical, elastic and thermal properties of ZnXAs₂ (X = Si and Ge) chalcopyrite semiconductor, **Sheetal Sharma**, A.S. Verma, V.K. Jindal, European Physics Journal B, **87**, 159 (2014). **I.F-1.345 springer verlag** United States ISSN: 1434-6028 July 2014
10. First principles study of the structural, electronic, optical, elastic and thermodynamic properties of CdXAs₂ (X = Si, Ge and Sn), **Sheetal Sharma**, A.S. Verma and V. K. Jindal, Materials Science in Semiconductor Processing, **27**, 79-96(2014). **I.F-2.21** ISSN: 1369-8001 July 2014
11. Computational study of CuGaS₂ based solar cell devices by using CdS and ZnSe buffer layers, Pravesh Singh, Ruchita Gautam, **Sheetal Sharma**, Sarita Kumari and Ajay Singh Verma, **8**, 294 – 303 (2014) IET Science, Measurement & Technology. **I.F-1.12** ISSN NO 1751-8822 Stevenage United Kingdom September 2014
12. Ab initio studies of structural, electronic, optical, elastic and thermal properties of Ag-chalcopyrites (AgAlX₂: X=S, Se), **Sheetal Sharma**, A. S. Verma , R. Bhandari, S. Kumari and V. K. Jindal, Materials Science in Semiconductor Processing, **26**, 187-198 (2014). **I.F-2.21** ISSN: 1369-8001 may 2014
13. Ab initio studies of structural, electronic, optical, elastic and thermal properties of silver gallium dichalcogenides (AgGaX₂: X = S, Se, Te), **Sheetal Sharma**, A.S. Verma, V.K. Jindal, Materials Research Bulletin, **53** (2014) 218–233. **I.F-2.42** ISSN: 0025-5408 feb 2014
14. Ab initio studies of structural, elastic and thermal properties of copper indium dichalcogenides (CuInX₂: X = S, Se, Te), **Sheetal Sharma**, A.S. Verma, R. Bhandari, V.K. Jindal, Computational Materials Science, **86** (2014) 108–117. **I.F-2.30** ISSN: 0927-0256 april 2014
15. First principles studies of structural, electronic, optical, elastic and thermal properties of Ag-chalcopyrites (AgInX₂: X=S, Se), **Sheetal Sharma**, A.S. Verma, V.K. Jindal, Physica B: Condensed Matter, **438** (2014) 97–108. **I.F-1.41** ISSN: 0921-4526 jan 2014
16. First-Principles Calculations of the Structural, Electronic, Optical and Mechanical Properties of CdS, CdSe and CdTe. **Sheetal Sharma** and A.S. Verma. Advanced Materials Research **665** (2013) 302-306. Feb 2013 ISSN No 1662-8985. Trans Tech Publications , Switzerland.
17. Elastic properties of chalcopyrite structured solids. A.S. Verma, **Sheetal Sharma**, R. Bhandari, B.K. Sarkar, V.K. Jindal. Materials Chemistry and Physics **132** (2012) 416–420. **I.F-2.32** ISSN: 0254-0584 november 2011
18. Models for lattice thermal expansion and thermal conductivity for ternary (A^NB^{2+N}C₂^{7-N}) tetrahedral semiconductors, A. S. Verma, B. K. Sarkar, **Sheetal Sharma**, Rajiv Bhandari, V. K. Jindal, Materials Chemistry and Physics, **127** (2011) 74-78. **I.F-2.32**. ISSN: 0254-0584 feb 2011.

19. Photoacoustic Spectroscopy: A tool for the investigation of thermal and optical properties of solids. Bimal Kumar Sarkar, P. S. Deviprasadh, A. S. Verma, **Sheetal Sharma** and V. K. Jindal. ISBN: 978-80-214-4345-7. Thermophysics 2011 - Conference Proceedings, [16th International Meeting of Thermophysical Society. November 2-4, 2011.](#)
20. H₂S adsorption on graphene – a DFT study. **Sheetal Sharma**, Pooja Rani, A.S. Verma. “**Emerging Paradigms in Nanotechnology**” ISBN:978-81-317-8991-9 NanoSciTech-2012, February 15-18, 2012.
21. Effect of Aluminium-Phosphorus (Al/P) codoping in graphene. Pooja Rani and **Sheetal Sharma**. “**Emerging Paradigms in Nanotechnology**” ISBN:978-81-317-8991-9 NanoSciTech-2012, February 15-18, 2012.
22. Evaluating optical parameters from electronic structure and crystal structure for binary ($A^N B^{8-N}$) and ternary ($A^N B^{2+N} C_2^{7-N}$) tetrahedral semiconductors. A. S. Verma, **Sheetal Sharma** and V. K. Jindal, Modern Physics Letters B, **24** (2010) 2511-2524. **I.F-0.56** ISSN: 0217-9849 World Scientific Publishing Singapore November 2009
23. Inherent properties of ternary ($A^N B^{2+N} C_2^{7-N}$) tetrahedral semiconductors, A. S. Verma, **Sheetal Sharma**, V. K. Jindal, International J Modern Physics B. **26** (2012) 1250079 (2012) 11 pages. . **I.F-0.85** ISSN: 0217-9792 june 2012.
24. Electronic polarizability of compound semiconductor, A. S. Verma, **Sheetal Sharma**, V. K. Jindal, J. Computational Methods in Science and Engineering. **10** (2010) 615-620. **I.F-0.00** ISSN: 1472-7978 august 2010.

PAPERS PRESENTED IN CONFERENCES/ SEMINARS

1. Structural, electronic and thermal properties of ZnSiX₂ (X=P, As) studied from first-principles theory. AIP Conf. Proc. 1536, pp. 423-424; doi:<http://dx.doi.org/10.1063/1.4810281> PROCEEDING OF INTERNATIONAL CONFERENCE ON RECENT TRENDS IN APPLIED PHYSICS AND MATERIAL SCIENCE: RAM 2013.
2. First principles study on the elastic and electronic properties of CdX (X = S, Se and Te). **Sheetal Sharma**, Ajay Singh Verma, Bimal Kumar Sarkar, Rajiv Bhandari and Vijay Kumar Jindal, AIP Conf. Proc. 1393, pp. 229-230; doi:<http://dx.doi.org/10.1063/1.3653693> , ICACNM-2011, 23–26 February 2011
3. Structure and stability of doped lithium clusters (Li_n and Li_nX, n=2-8, X=B, Al) – A DFT study. Pooja Rani, **Sheetal Sharma** and Vijay Kumar Jindal, AIP Conf. Proc. 1393, pp. 191-192; doi:<http://dx.doi.org/10.1063/1.3653674> .
4. Electronic and mechanical properties of ZnX (X = S, Se and Te) – An ab initio study. Ajay Singh Verma, **Sheetal Sharma**, Bimal Kumar Sarkar and Vijay Kumar Jindal, AIP Conf. Proc. 1393, pp.

237-238; doi:<http://dx.doi.org/10.1063/1.3653697>.

5. FP-LAPW + lo calculations for the structural, electronic, optical and mechanical properties of ZnX (X = S, Se and Te). **Sheetal Sharma**, A. S. Verma, B. K. Sarkar and V. K. Jindal. [AIP conference proceeding](#) through **56th DAE Solid State Physics Symposium (DAE - SSPS 2011)** SRM University, Kattankulathur during December 19–23, 2011.
6. Elastic constants of CaF₂ at different temperature. **Sheetal Sharma**, Ajay Singh Verma and V.K. Jindal, AIP Conf. Proc. 1349, 825-826 (2011); doi: 10.1063/1.3606112. **55th DAE-SSPS**, December 26-30, 2010.

NATIONAL/INTERNATIONAL WORKSHOPS ATTENDED

1. Seminar cum workshop on first principle and other simulation methods in condensed matter physics (March 22-29, 2010). Department of Physics, Himachal Pradesh University.
2. National workshop on advanced characterization and simulation techniques (March 12 - 17, 2012) Department of Physics, Kurukshetra University, Kurukshetra.
3. 21st WIEN2k workshop and International Conference on Advanced Materials Modeling, Institut des Matériaux Jean Rouxel Université de Nantes - France, Nantes (France) 02-09 July 2014.

Dr. Sheetal Sharma

(Assistant Professor)

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