




University of Kota, Kota

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Faculty Profile

Title	Dr.	First Name	G.S.	Last Name	Sharma	Photograph
Designation		Professor				
Address		Department of Pure & Applied Physics University of Kota, Near Kabir Circle, Kota-324010 Rajasthan, India				
Phone No. Office		+91-744-2471038				
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E-mail		gsharma@uok.ac.in , gsphysics@gmail.com				
Educational Qualifications						
Degree		Institution			Year	
Ph.D.		University of Rajasthan, Jaipur			2010	
Title: Study of electronic structure in some technologically important alloys and compounds						
M.Sc. (Physics)		University of Rajasthan, Jaipur			2003	
Career Profile						
UG Teaching: 21 Years			PG teaching: 15 Years			
July 2004 - June 2005		Assistant Professor of Physics, MGIAS, JECRC foundation, Jaipur (Rajasthan)				
July 2005 - July 2010		Assistant Professor of Physics, Banasthali University, Banasthali (Rajasthan)				
August 2010 - July 2012		Associate Professor of Physics, Banasthali University, Banasthali (Rajasthan)				
July 2012 - February 2013		Assistant Professor of Physics, University of Kota, Kota (Rajasthan)				
February 2013 - February 2016		Associate Professor of Physics, University of Kota, Kota (Rajasthan)				
February 2016 - Continued		Professor of Physics, University of Kota, Kota (Rajasthan)				
Area of Interest/ Specialization						
Electronic, structural and optical properties of doped and undoped binary semiconductors using ab-initio techniques and experiment for potential applications						
Subject Taught						
UG: Electricity & Magnetism Wave & Oscillations Mechanics, Engineering Mechanics Optics, Statistical & Thermal Physics Nuclear & Solid state Physics Elementary Quantum Mechanics Applied Physics			PG: Quantum Mechanics Nuclear Physics Physics of nanostructures and nanotechnology Bio-Physics Computational Physics Atomic and Molecular Physics			

Publication Profile

(a) Research Papers published in Refereed/Peer Reviews Journals/Books

1. **Electron momentum distribution in SnS:** G. Sharma, M. Sharma, M. C. Mishra, K. B. Joshi, R. K. Kothari and B. K. Sharma, Phys. Status Solidi B **246**, 2263-2269 (2009).
2. **Electronic structure of AlAs: A Compton profile study:** G. Sharma, K. B. Joshi, M. C. Mishra, R. K. Kothari, Y. C. Sharma, V. Vyas and B. K. Sharma, Journal of alloys and compounds **485**, 682-686 (2009).
3. **A study of electronic structure of CdSe using Compton scattering technique:** M. S. Dhaka, G. Sharma, K. B. Joshi, M. C. Mishra, R. K. Kothari, and B. K. Sharma, Physica B **405**, 3537-3542 (2010).
4. **Ab-initio determination of X-ray structure factors and the Compton profiles of CdO:** M. S. Dhaka, U. Paliwal, G. Sharma, K. B. Joshi, M. C. Mishra, R. K. Kothari, and B. K. Sharma, Journal of alloys and compounds **501**, 136-142 (2010).
5. **Modeling and simulation of GaN/Al_{0.3}Ga_{0.7}N new multilayer nano-heterostructure:** P. A. Alvi, S. Gupta, M.J. Siddiqui, G. Sharma and S. Dalela, Physica B **405**, 2431-2435 (2010).
6. **Affects of Al concentration on GaN/Al_xGa_{1-x}N new modeled multilayer nano-heterostructure:** P. A. Alvi, S. Gupta, P. Vijay, G. Sharma and M.J. Siddiqui, Physica B **405**, 3624-3629 (2010).
7. **Electron momentum density distribution in Cd₃P₂:** M. S. Dhaka, G. Sharma, M. C. Mishra, K. B. Joshi, R. K. Kothari and B. K. Sharma, Computer Phys. Communications **182**, 2017-2020 (2011).
8. **Electronic properties of SnTe: A First Principles Study:** G. Sharma, P. Bhambhani, N. Munjal, V. Sharma and B.K. Sharma, J. of Nano. Electron. Phys. **3**, 341-347 (2011).
9. **Electronic structure and magnetic properties of Co doped ZnO:** A. Rathor, E. Chaturvedi, G. Sharma, V. Sharma, O.U. Okeke, J. of Nano. Electron. Phys. **3**, 268-273 (2011).
10. **Electron momentum density distribution in Ti-Cu:** G. Sharma, V. Sharma, M. C. Mishra, M.S. Dhaka and B. K. Sharma, Intermetallics **19**, 666-670 (2011).
11. **Compton profile and charge transfer study in intermetallic Ti-Al system:** G. Sharma, K. B. Joshi, M. C. Mishra, R. K. Kothari, M. S. Dhaka and B. K. Sharma, Intermetallics **19**, 1107-1114 (2011).
12. **Electron momentum density in Multi Wall Carbon Nanotubes:** G. Sharma, K.B. Joshi, M.C. Mishra, S. Shrivastava, Y.K. Vijay and B.K. Sharma, Physica E **43**, 1084-1086 (2011).
13. **A study of electron momentum density distribution in Al₂O₃ Ceramics:** V. Vyas, R. Kumar, M. C. Mishra, R. K. Kothari, G. Sharma and B. K. Sharma, Physica Scripta **84**, 025601 1-5 (2011).
14. **Electron momentum density and X-ray structure factors of copper:** N. Munjal, P. Bhambhani, V. Vyas, P. A. Alvi, G. Sharma and B.K. Sharma, WJCMP **1**, 70-76 (2011).
15. **Ab-initio study of electronic and elastic properties of beryllium-chalcogenides BeX (X= S, Se and Te):** N. Munjal, G. Sharma, V. Sharma, V. Vyas, B.K. Sharma and J. E. Lowther, Physica Scripta **84**, 035704 1-10 (2011).
16. **Size dependent electron momentum density distribution in ZnS:** M.C. Mishra, R. Kumar, G. Sharma, Y.K. Vijay and B.K. Sharma, Physica B **406**, 4307-4311 (2011).
17. **Electronic structure of CaX (X=O, S, Se) compounds using Compton spectroscopy:** M.C. Mishra, G. Sharma, R.K. Kothari, Y.K. Vijay and B. K. Sharma,

- Computational Mat. Sci. **51**, 340-346 (2012).
18. **Electron momentum density and phase transition in SrO:** R. Kumar, N. Munjal, **G. Sharma**, V. Vyas, M.S. Dhaka, B. K. Sharma, Phase Transition **85**, 1098 (2012).
 19. **Ab-initio study of structural and electronic properties of AlAs:** N. Munjal, **G. Sharma**, V. Vyas, K.B. Joshi, B. K. Sharma, Philosophical Magazine **92**, 3101 (2012).
 20. **Electronic structure and elastic properties of TiB₂ and ZrB₂:** R. Kumar, M.C. Mishra, B.K. Sharma, **G. Sharma**, V. Vyas, V. Sharma, J. E. Lowther, Computational Mat. Sci. **61**, 150-157 (2012).
 21. **Ab-initio study of phase transition and electron momentum density in PbTe:** P. Bhambhani and **G. Sharma**, Phase Transition **86**, 551 (2013).
 22. **Electronic structure of nano-sized ZnO: A Compton profile study:** R. Kumar, M.C. Mishra, B.K. Sharma, V. Vyas, **G. Sharma**, Electronic Materials Letters **9**, 19 (2013).
 23. **Electronic structure of Ti-Al from first-principles:** **G. Sharma**, V. Sharma, B.K. Sharma, J. of Advanced Phys. **2**, 45 (2013).
 24. **Analysis of the electronic structure of ZrO₂ by Compton spectroscopy:** F. M. Mahammad, S. F. Mahammed, R. Kumar, Y. K. Vijay, B. K. Sharma, **G. Sharma**, J. of Exp. & Theoretical Phys. **117**, 139-143 (2013).
 25. **Electron momentum density, band structure and structural properties of SrS:** **G. Sharma**, N. Munjal, V. Vyas, R. Kumar, B.K. Sharma, K.B. Joshi, J. of Exp. & Theoretical Phys. **117**, 747-753 (2013).
 26. **Electron momentum density distribution in hcp-Ti:** **G. Sharma**, V. Vyas, B.K. Sharma, Advanced Science Focus **1**, 238-241 (2013).
 27. **Electron momentum density and phase transition in ZnS:** N. Munjal, V. Vyas, **G. Sharma**, M. C. Mishra, B. K. Sharma, J. of Theoretical Chemistry **2013**, Article ID 349870, 7 pages (2013).
 28. **Electronic properties of ZnO: Band structure and Directional Compton profiles:** **G. Sharma**, M.C. Mishra, M.S. Dhaka, R.K. Kothari, K.B. Joshi and B. K. Sharma, J. Electronic Mat **42**, 3429-3437 (2013).
 29. **Electronic structure and momentum density of BaO and BaS:** R. Kumar, B.K. Sharma, **G. Sharma**, Advances in Condensed Matter Physics **2013**, Article ID 415726, 6 pages (2013).
 30. **High pressure study of structural and electronic properties of PbSe:** P. Bhambhani, K. Kabra, B.K. Sharma, **G. Sharma**, J. of Solid State Phys. **2014**, Article ID 921092, 7 pages (2014)
 31. **Fabrication of Hierarchical Flower shaped PbS crystals via hydrothermal and microwave routes:** P. Bhambhani, K. Kabra, D. Kumar, **G. Sharma**, B.K. Sharma, Advanced Materials Research, **1105**, 88 (2015).
 32. **Electronic Properties of Mg_xCa_{1-x}O (x = 0.0, 0.25, 0.50, 0.75 and 1.0): A First Principles Study:** N. Munjal, **G. Sharma**, Research Journal of Pharmaceutical, Biological and Chemical Sciences **6**, 428-35 (2015).
 33. **First principle study of phase transition in CaO:** N. Munjal, K. Bhakri, and **G. Sharma**, Journal of Chemical and Pharmaceutical Research **7**, 289-291 (2015).
 34. **Ab-Initio Determination of Electronic Structure of PbS_{1-x}Sex:** K. Kabra, P. Bambhani, **G. Sharma**, and B. K. Sharma, Adv. Sci. Lett. **21**, 2823-2825 (2015).
 35. **Theoretical Investigation of Structural and Electronic Properties of PbSe_{1-x}Te_x:** P. Bhambhani, K. Kabra, and **G. Sharma**, Adv. Sci. Lett. **21**, 2779-2782 (2015).
 36. **Investigation of structural and electronic properties of Zn₃P₂: Theory and Experiment:** M. Kaur, K. Kabra, R. Kumar, B. K. Sharma and **G. Sharma**, J. Electronic Mat. **45**, 2847-2854 (2016).

37. **Phase transition in LaS:** N. Munjal, K. Kaur, and **G. Sharma**, *JCPS* **9**, 3308-09 (2016).
38. **Electronic structure of CuO from first-principles and experiment:** M. Vashistha, K. Kabra, V. Vyas, R. Kumar, B. K. Sharma and **G. Sharma**, *Quantum Matter* **5**, 717-720 (2016).
39. **Electronic structure of VO₂ using Compton spectroscopy:** M. Vashistha, D.R. Phalasal, K. Kabra, R. Kumar, B. K. Sharma, and **G. Sharma**, *Materials Focus* **5**(6), 517-523 (2016).
40. **Structural, electronic and elastic properties of Zn₃As₂:** M. Kaur, K. Kabra, R. Kumar, B. K. Sharma and **G. Sharma**, *Journal of alloys and compounds* **709**, 179-186 (2017).
41. **Compton scattering study of MnO₂:** M. Vashistha, D.R. Phalasal, K. Kabra, R. Kumar, B.K. Sharma and **G. Sharma**, *Integrated Ferroelectrics* **185**, 47-51 (2017).
42. **Electronic and thermoelectric properties of some CuH crystals:** V. Maurya, **G. Sharma**, U. Palliwal and K.B. Joshi, *Computational Mat. Science* **150**, 329-336 (2018).
43. **Characterization of the electronic and vibrational properties of Zn_xCd_{1-x}SySe_{1-y}(y= 0.25, 0.75) mixed crystals by a first-principles method:** U.Paliwal, **G. Sharma**, K.B. Joshi, *Journal of Materials Science* **54**, 1382–1394 (2019).
44. **Thermoelectric and vibrational properties of Be₂C, BeMgC and Mg₂C using first-principles method:** V. Maurya, U. Paliwal, **G. Sharma**, and K.B. Joshi, *RSC Advances* **9**, 13515-26 (2019).
45. **Thermoelectric characterization of ZnSb by first-principles method:** V. Maurya, K.L. Galav, **G. Sharma**, K.B. Joshi, *AIP Advances* **9** (8), 085003 (2019).
46. **Elastic properties and zone centre frequencies of Cu₂O by LCAO method:** K.L. Galav, S.S Paliwal, V. Maurya, **G. Sharma** and K.B. Joshi, *Indian Journal of Pure & Applied Physics* **57**, 918-922 (2019).
47. **Computational analysis of strain-induced electronic and optical properties of Zn₃As₂:** M. Kaur, **G. Sharma**, M. Rerat, K.B. Joshi, *Journal of Materials Science* **55**, 5099–5110 (2020).
48. **Structural, elastic, thermodynamic and electronic properties of Covellite, CuS:** S. Arora, K. Kabra, K.B. Joshi, B.K. Sharma, **G. Sharma**, *Physica B*, **582**, 311142 (2020).
49. **DFT investigation of electronic and elastic properties of α -CdP₂:** S. Rajpurohit, K. Kabra and **G. Sharma**, *Materials Research Express* **07**, 095901 (2020).
50. **First-principles characterisation of structural and electronic properties of some RuO₂ crystals:** V Maurya, **G. Sharma**, K.B. Joshi, *Physica Scripta* **96**, 055807 (2021).
51. **DFT investigation of mechanical and vibrational properties of CuTe:** K. Kabra, S. Arora, K.B. Joshi, **G. Sharma**, *Physica B* **620**, 413214 (2021).
52. **Theoretical insight into electronic and optical behaviour of H-adsorbed Zn-terminated Zn₃N₂-(100)-non-polar surface:** M. Kaur, K. Kabra, M. Rerat, **G. Sharma**, *Vacuum* **192**, 110467 (2021).
53. **Annealing treatment-induced structural, optical and electrical behaviour of thermally evaporated CuSe films for solar cells:** S. Arora, S. Chuhadiya, D. Suthar, Himanshu, M. S. Dhaka, **G. Sharma**, *Journal of Materials Science* **34**, 1266 (2023).
54. **Ab-initio investigation of elastic properties of Monoclinic ZnAs₂ crystal:** S. Rajpurohit and **G. Sharma**, *Journal of Condensed Matter* **01**, 56 (2023).
55. **First-principles calculations to investigate structural, electronic, optical and elastic properties of α -Ca₃N₂:** P. Meena, M. Kaur, K. Kabra, M. R erat, **G. Sharma**, *Journal of Alloys and Compounds* **968**, 172037 (2023).

56. **Insights into structural stability and thermal energy conversion into electrical properties of Mg_3X_2 ($X = P, As,$ and Sb) compounds: A first-principles study:** M.C. Rolania, P.K. Kamlesh, P. Kumar, **G.Sharma**, A.S. Verma, **Modern Physics Letters B** **39** (22), 2550081 (2025)
57. **Electronic states of Nb_3Be and V_3Be :** S. Sharma , N. Joshi, V. Maurya, **G. Sharma**, K.B. Joshi, **Next Materials** **09**, 101013 (2025).

Book / Chapter etc.

1. **Electronic structure and momentum density of some binary systems: Theory and Experiment:** **G. Sharma**, LAMBERT Academic Publishing, Germany, 2011.
2. **Ab-initio determination of pressure dependent electronic and optical properties of lead sulfide for energy applications:** P. Bhambhani and **G. Sharma**, Advanced Materials Series, Chapter 8, p.p. 327-344, 2014, WILEY-Scrivener Publishing, USA.
3. **Proceedings of National School on Quantum Mechanics 2013**, K.P. Maheshwari, N.K. Jaiman, **G. Sharma**, N.Munjal, Organized by University of Kota, Kota.
4. **Ab-initio Investigation of Band Gap Variation in PbS Nanotubes With Diameter**, Conference proceeding: National Conference on Advanced functional materials and their application, AFMA-2015, pp.: 25-28, M. Kaur, K. Kabra, B. K. Sharma and **G. Sharma** (2015).

(b) Other Publications in International/National Conferences/Symposium/Schools:

Conference proceedings etc.

1. **Ionicity and bonding in HgX_2 compounds using Compton scattering:** M. S. Dhaka, M. Sharma, **G. Sharma**, M.C. Mishra, R. K. Kothari and B.K. Sharma, **DAE-SSPS** **54**, 719 (2009).
2. **Compton profile study of polycrystalline $ZnBr_2$:** M.S. Dhaka, **G. Sharma**, M.C. Mishra, R.K. Kothari and B.K. Sharma, **AIP Conf. Proc.** **1313**, 221 (2010).
3. **Compton Profile Study of Intermetallic Ti_3Al :** V. Vyas, **G. Sharma**, M.C. Mishra, K.B. Joshi and B.K. Sharma, **AIP Conf. Proc.** **1391**, 122 (2011).
4. **Study of phase transition and cohesive energy in MgO :** N. Munjal, P. Bhambhani, **G. Sharma**, V. Vyas and B. K. Sharma, **J. of Phys.:Conf. Series.** **377**, 01267 (2012).
5. **First-principles study of B1 to B2 phase transition in PbS :** P. Bhambhani, N. Munjal, **G. Sharma**, B. K. Sharma, **J. of Phys.:Conf. Series** **377**, 01268 (2012).
6. **Compton profile study of ZrB_2 :** V. Vyas, R. Kumar, **G. Sharma**, and B. K. Sharma, **AIP Conf. Proc.** **1536**, 387 (2013).
7. **Electronic structure of polycrystalline Cd metal using ^{241}Am radioisotope:** M.S.Dhaka, **G. Sharma**, M.C.Mishra, and B.K.Sharma, **AIP Conference Proceedings** **1591**, 1075 (2014).
8. **Electronic Structure Study of TiB_2 and Ti_2B :** M. Vashistha, K. Kabra, V. Vyas, **G. Sharma**, **AIP Conf. Proc.** **1665**, 090039 (2015).
9. **Electronic States of RuO_2 using hybrid functionals:** Vijay Maurya, U. Paliwal, **G. Sharma** and K.B. Joshi, **AIP Conf. Proc.** **2265**, 030349 (2020).
10. **Investigation of Structural Properties of a Ternary Semiconductor Compound $Sr_xCd_{1-x}O$ ($x= 0.00, 0.25, 0.50, 0.75$ and 1.00):** N. Munjal, G. Rizal, A.D. Majumdaar, G. Kaur, U. Kamboj, R.K. Brar, P. Kaur, R. Kumar, **G. Sharma**, **Materials Today: Proceedings** **24**, 2290-2294 (2020).
11. **First-principles Characterization of the Electronic Properties of h-BN Layers:** U. Palliwal, **G. Sharma**, K.B. Joshi, **Materials Today: Proceeding** **50**, 301-306 (2022).
12. **Thermoelectric properties of the B1 and B2 phases of BaO :** K. Dhill, S. Sharma, V. Maurya, **G. Sharma**, K.B. Joshi, **AIP Conference Proceedings** **3149**, 130004 (2024)

(c) Citations
Citations-502, h-index- 12, i10 index-17
Conference Organization/Presentations (in the last three years)
(a) Organization of a conference
<ul style="list-style-type: none"> • Co-Convener, National Symposium on Materials for Advanced Technology 27-29 March, 2011, held at Banasthali University, Banasthali. • Coordinator, Energy Meet 2012 held at University of Kota, Kota, on 22 November, 2012. • Organizing Secretary, National School on Quantum Mechanics 2013, March 05-09, 2013, University of Kota, Kota. • Convener, Energy Meet 2013 held at University of Kota, Kota, on 02 December, 2013. • Deputy Coordinator, Refresher Course in Experimental Physics, January 09-25, 2014, University of Kota, Kota. • Coordinator, National School on Quantum Mechanics 2014, February 18-22, 2014, University of Kota, Kota. • Co-convener, National Workshop on Opportunities and Challenges of Life-A Road Map Towards Successful Career” organized by the Placement and Counseling Cell, University of Kota during 3-4 July, 2014 • Co-Convener, Energy Meet 2014 held at University of Kota, Kota, during November 14-15, 2014. • Coordinator, PhD Course work programme-2015 held from 09 March to 31 March, 2015 at University of Kota, Kota. • Member, Organizing Committee of 69th Annual Conference of ISAS during 14-16 December, 2015 at University of Kota, Kota. • Organizing Secretary, National School on Quantum Mechanics 2015 held at University of Kota, Kota during 20-25 December, 2015. • Convener, Energy Meet 2015 held at University of Kota, Kota on December 11, 2015. • Coordinator, Refresher Course of HRDC-JNVU, Jodhpur held at University of Kota, Kota during May 11- 31, 2016. • Member, Organizing Committee, Workshop on Academic Ethics and Integrity held on 27 July, 2017, University of Kota, Kota. • Member, Organizing Committee, Workshop on GST held at University of Kota, Kota on January 07, 2018 and 29 July, 2018. • Member, Organizing Committee, Workshop on GST/GeM Portal/E-procurement held at University of Kota, Kota on 29 July, 2018. • Convener, International Workshop on Renewable Energy Waste and Recycling-2018 held at University of Kota, Kota during 03-04 December, 2018. • Convener, National Seminar on Energy Technologies Mitigating Adverse Environmental Impacts held at University of Kota, Kota on 04 December, 2019.
(b) Participation as Paper/Poster Presenter etc:
Paper/Poster Presentations:
<ol style="list-style-type: none"> 1. Electronic Structure of AlN by Compton Profile: V. Vyas, Y.C. Sharma, V. Purvia, G. Sharma, B.K. Sharma, N.L. Heda, B.L. Ahuja and K.B. Joshi, Presented in 2nd National Conference on Condensed Matter and Material Physics (CMMP) at Jaipur, 1-3 Feb 2007. 2. Compton profile study of Sn and SnS: G. Sharma, V. Vyas, M. C. Mishra, K. B. Joshi, R. K. Kothari and B. K. Sharma, Presented in 4th Euro School in Material Science, Ljubljana, Slovenia, 25-31 May, 2009. 3. Electronic structure of polycrystalline ZnBr₂: M. S. Dhaka, G. Sharma, M. C.

- Mishra, R. K. Kothari, and B. K. Sharma, Presented in National Conference on Recent trends in Chemical Sciences (NCR TCS-09) at Churu, Rajasthan, 1-3 Feb 2010.
4. **Electron momentum density distribution in TiAl₃, TiAl and Ti₃Al alloys:** K.B. Joshi, **G. Sharma**, M.C. Mishra, M.S. Dhaka, R.K. Kothari and B.K. Sharma, Presented in 7th International conference on Inelastic X-ray Scattering (IXS2010), 11-14 Oct., 2010, Grenoble, France.
 5. **Electronic structure of γ -TiCu using Compton spectroscopy:** R.K. Kothari, **G. Sharma**, M.C. Mishra, M.S. Dhaka, K.B. Joshi and B.K. Sharma, Presented in 7th International conference on Inelastic X-ray Scattering (IXS2010), 11-14 Oct., 2010, Grenoble, France.
 6. **Directional Compton profiles of ZnO:** B.K. Sharma, R.K. Kothari, **G. Sharma**, M.C. Mishra and K.B. Joshi, Presented in 7th International conference on Inelastic X-ray Scattering (IXS2010), 11-14 Oct., 2010, Grenoble, France.
 7. **Electronic structure of intermetallic Ti-Al: A First principle study,** **G. Sharma**, V. Sharma, A. Kashyap and B. K. Sharma, Presented in KKR Hands-On course 4-6 October, 2010, Dares bury Laboratory and Chester, UK.
<http://www.cse.scitech.ac.uk/cecam_at_daresbury/DLTR-2011-002.pdf>
 8. **First-principles study of structural properties of MgO:** N. Munjal, P. Bhambhani, V. Vyas, **G. Sharma** and B.K. Sharma, Presented at NSMAT 2011, 27-29 March, 2011, held at Banasthali University, Banasthali.
 9. **Electronic structure of ZrB₂ using Compton spectroscopy:** R. Kumar, M.C. Mishra, **G. Sharma**, V. Vyas and B.K. Sharma, Presented at NSMAT 2011, 27-29 March, 2011, held at Banasthali University, Banasthali.
 10. **Electronic properties of beryllium-chalcogenides BeX (X= S, Se and Te):** N. Munjal, **G. Sharma**, V. Sharma, V. Vyas and B.K. Sharma, Presented in Optics11, NIT Calicut, 23-25 May, 2011.
 11. **Electron momentum density in noncrystalline ZnS:** **G. Sharma**, M. C. Mishra and B. K. Sharma, Presented in ICNANO 2011, University of Delhi, New Delhi, 2011.
 12. **First-principles study of structural properties of AlAs:** **G. Sharma**, N. Munal, V. Vyas and B.K. Sharma, Presented in ICOCENT, Amity University, Jaipur, 1-2 March, 2012.
 13. **Electron Momentum Density Distribution in CaO:** **G. Sharma**, M. C. Mishra and B. K. Sharma, Presented in ICGTCS, Udaipur, 3-4 March, 2012.
 14. **Optical properties of chalcogenide glasses:** D.K. Dwivedi, **G. Sharma**, U.N. Tripathi, M. Mishra, Presented in National Seminar on active and smart materials 23-24 March, 2012, held at M.M.M. Engineering College, Gorakhpur.
 15. **Electronic and optical properties of lead sulphide:** **G. Sharma**, Presented in Energy Meet 2012 on 22 November, 2012 held at University of Kota, Kota.
 16. **Ab-initio prediction of phase transition in SrO:** N. Munjal, **G. Sharma**, Presented in MSSC2012, Imperial College London, London, 17-21 September, 2012.
 17. **Electronic structure and bonding in CaO:** **G. Sharma**, M. C. Mishra, V. Vyas, and B. K. Sharma, RAM 2013, 1-2 February, 2013, ECB, Bikaner.
 18. **Structural and electronic properties of BeS:** N. Munjal, **G. Sharma**, Presented in National School on Quantum Mechanics during 05-09 March, 2013, University of Kota, Kota.
 19. **Electronic structure study of TiB₂:** M. Vashista, V. Munjal, **G. Sharma**, V. Vyas, Presented in National School on Quantum Mechanics during 05-09 March, 2013, University of Kota, Kota.
 20. **Effect of Se doping on structural properties of PbS_{1-x}Se_x:** P. Bhambhani, **G. Sharma**, Presented in Energy Meet-2013, University of Kota, 02 December, 2013.

21. **Investigation of variation in energy-gap of $\text{PbS}_{1-x}\text{Se}_x$ with doping concentration:** G. Sharma, P. Bhambhani, Presented in Energy Meet-2013, University of Kota, 02 December, 2013.
22. **Electron momentum density in CuO:** M. Vashistha, K. Kabra, B. K. Sharma and G. Sharma, Presented in National School on Quantum Mechanics during 20-25 December, 2015 at University of Kota, Kota.
23. **Ab-initio determination of electronic structure of PbS nanowires with diameter:** M. Kaur, K. Kabra, B. K. Sharma and G. Sharma, Presented in National School on Quantum Mechanics during 20-25 December, 2015 at University of Kota, Kota.
24. **High Pressure Study of a II-V group compound Zn_3As_2 :** G. Sharma, M. Kaur, K. Kabra, International Workshop on fundamentals of solar thermal technologies, December 5-6 2016 at University of Kota, Kota.
25. **First principles investigation of electronic properties of MnO_2 :** G. Sharma, K. Kabra, M. Vashistha, M.Kaur, International Workshop on fundamentals of solar thermal technologies, December 5-6 2016 at University of Kota, Kota.
26. **Formation Energy of Zn_3As_2 : Theory and Experiment:** M. Kaur, K. Kabra, G. Sharma, International Workshop on fundamentals of solar thermal technologies, December 5-6 2016 at University of Kota, Kota.
27. **Electron momentum density in VO_2 :** K. Kabra, G. Sharma, M. Vashistha, M.Kaur, International Workshop on fundamentals of solar thermal technologies, December 5-6 2016 at University of Kota, Kota.
28. **Structural and Electronic Properties of CuS: Theory and Experiment:** S. Arora, G. Sharma, K. Kabra, International Conference on Physics and Mechanics of new materials and their applications held at IIT, Jabalpur (M.P.) during October 14-16, 2017.
29. **Zinc Nitride: A Promising Candidate for Optoelectronic Applications:** M.Kaur, G. Sharma, National Seminar on Sustainable Solutions for Energy and Environment, August 06-07, 2018 at University of Kota, Kota.
30. **Structural and Electronic Properties of CuSe:** S. Arora, K. Kabra, G. Sharma, National Seminar on Sustainable Solutions for Energy and Environment (Energy Meet 2018), August 06-07, 2018 at University of Kota, Kota.
31. **Optical Properties of CuS-First principle studies:** S. Arora, K. Kabra, G. Sharma, International conference on materials for energy applications, December 06-08, 2018 at S.S. Jain Subodh PG College, Jaipur.
32. **Electronic properties of Vulcanite: Insight from first principles computation:** K.Kabra and G. Sharma, International conference on innovative research in science, technology and management, April 20-21, 2019 at MIMT, Kota.
33. **First principle investigation of structural and electronic properties of B_2O_3 :** I. Hasnani, K.Kabra and G. Sharma, International conference on innovative research in science, technology and management, April 20-21, 2019 at MIMT, Kota.
34. **Elastic properties of Zn_3P_2 :** M.Kaur and G. Sharma, National Seminar on Energy Technologies Mitigating Adverse Environmental Impacts (Energy Meet 2019), December 07, 2019 at University of Kota, Kota.
35. **First principle investigation of structural and electronic properties of Copper chalcogenides:** K. Kabra and G. Sharma, National Seminar on Energy Technologies Mitigating Adverse Environmental Impacts (Energy Meet 2019), December 07, 2019 at University of Kota, Kota.
36. **First principle investigation of elastic properties of B_2O_3 :** I. Hasnani, K.Kabra and G. Sharma, National Seminar on Energy Technologies Mitigating Adverse Environmental Impacts (Energy Meet 2019), December 07, 2019 at University of Kota, Kota.

37. **Structural and Electronic Properties of α -Ca₃N₂ : A First Principles Study:** P. Meena, K. Kabra and G. Sharma, **65th DAE Solid State Physics Symposium** December 15-19, 2021, DAE Convention Centre, Anushaktinagar, Mumbai-94 Organized by Bhabha Atomic Research Centre, Mumbai.

Other (Invited talks / Expert lectures / Session chair etc.)

1. **Problems encountered by researchers in India:** Delivered on 23 July, 2013 to CSI students, University of Kota, Kota.
2. **The Hellmann-Feynman theorem in Quantum Mechanics:** Delivered in National School on Quantum Mechanics during February 18-22, 2014, University of Kota, Kota.
3. **Chair the session in the Energy Meet 2014** held at University of Kota, Kota, during November 14-15, 2014.
4. **Lecture on citations, h-index and i10-index:** Delivered in PhD Course work programme-2015 held from 09 March to 31 March, 2015 at University of Kota, Kota.
5. **Optical Properties of Low Dimensional PbS-Experimental and Theoretical Investigations:** Delivered in Advancement of Material Science and Physics (WAMP-2015) during 19-21 November, 2015 at Manipal University Jaipur.
6. **Perturbed harmonic oscillator problem in Quantum Mechanics:** Delivered in National School on Quantum Mechanics during 20-25 December, 2015, University of Kota, Kota.
7. **Criteria of good research:** Delivered in PhD Course work programme-2016 on May 07, 2016 at University of Kota, Kota.
8. **How to write research paper:** Delivered in PhD Course work programme-2017 on August 26, 2017 at University of Kota, Kota.
9. **Effect of drug in College life:** Delivered in Symposium on drug abuse prevention among students on November 15, 2019 at University of Kota, Kota.
10. **Execution of the project:** Delivered in PhD Course work programme-2019 on January 29, 2020 at University of Kota, Kota.
11. **Detection of dark matter and energy:** Delivered in TEQIP-III Sponsored FDP on Recent Advancements in the Field of Physical Sciences Organized By Rajasthan Technical University, Kota and Jaipur Engineering College, Kukas, Jaipur on August 07, 2020.
12. **International Conference on Renewable Energy (ICRE-2022):** Chairperson in Technical Session, organized by Centre for Non-Conventional Energy Resources, University of Rajasthan, Jaipur India from February 25- 27, 2022.
13. **Criteria of good research and problems encountered by researchers in India:** Delivered in PhD Course work programme-2022 on June 09, 2022 at University of Kota, Kota.
14. Co-Session Chair in International Conference & Expo on “**Advances in Power Generation, Renewable Energy and Sustainable Development (APGRES-2023)**” held on 03-04 February, 2023 at Rajasthan Technical University, Kota.
15. **International linkages and collaboration’s for research:** Delivered in PhD Course work programme-2024 on March 01, 2024 at University of Kota, Kota.

Research Projects (Major Grants/Research Collaboration):

S.N.	Title	Funding Agency	Duration
1.	Compton profile study of some alloys and compounds	UGC, New Delhi	2007-2009
2.	Electron momentum density of some binary compounds in bulk and nanophase	UGC, New Delhi	2011-2013
3.	Study of the electronic, optical and structural	CSIR,	2012-2015

	properties of lead-chalcogenides PbX (X=S, Se, Te)	New Delhi	
4.	Study of electronic and optical properties of Zn ₃ X ₂ (X=N, P, As) semiconductor compounds for solar cell applications	DST-SERB, New Delhi (OYS-Scheme)	2013-2016
5.	Experimental and <i>Ab initio</i> investigations of electronic, optical and phonon properties of Copper Chalcogenides, CuX (X= S, Se & Te)*	DST, New Delhi	2018-2021

*Scientific Mentor

Association with Professional Bodies

(a) Reviewing

Reviewed many articles of following SCI journals;

- ACS Omega
- Bulletin of Material Science
- Computational Condensed Matter
- Chemical Physics Letters
- Journal of Electronic Materials
- RSC Advances
- Computational Material Science
- Science of Advanced Materials
- International Journal of Materials Research,
- International Journal of Vocational and Technical Education,
- Indian Journal of Pure & Applied Physics
- Research Journal of Earth and Planetary Sciences
- Physica B

(b) Awards/Memberships

- DST-Young Scientist under OYS-Scheme, DST-SERB, New Delhi
- Life membership of American Nano Society (ANS): ID 116008/2011
- Life membership of Indian Association of Physics Teachers (IAPT): ID 8247 L-4825
- Life membership of Indian Science Congress Association (ISCA): ID L13644/2008
- Life membership of Rajasthan Physics Association (RPA): ID LM 110/11/08
- Member of editorial board of International Journal of Current Science & Technology

Academic & Administrative assignments

(a) Current

- Convener, COC Applied Physics, University of Kota, Kota
- Member, Internal Quality Assurance Cell (IQAC), University of Kota, Kota
- Public Relations Officer (PRO), University of Kota, Kota from May 2015
- Member, Departmental Technical Committee, University of Kota, Kota.
- Member, RUSA Committee of University of Kota, Kota
- Member, UGC Cell, University of Kota, Kota
- Member, Examination Committee, University of Kota, Kota
- Member, University-Level Academic Journal Expert Committee
- Convener, Online Admission Committee, University of Kota, Kota
- Member of the Quality Index Valuation (QIV) Committee, University of Kota, Kota
- Member, Central Admission Committee, University of Kota, Kota
- Member, RUSA-Project Monitoring Unit (PMU), University of Kota, Kota
- Member, RUSA-BoG, University of Kota, Kota

- Member, AICTE correspondence Cell, University of Kota, Kota
- Nominee of the University of Kota, Kota in the DLQAC
- Dean, PG Studies, University of Kota, Kota
- Convener, Annual Report Committee, University of Kota
- Member, Academic Council (AC), University of Kota

(b) Earlier

- Coordinator, Summer Training, M.Sc. (Physics) II Semester, Banasthali University
- Member, Board of Studies in Physics, Banasthali University, Banasthali
- Member, Committee of Courses in Physics, Senior Secondary School, Banasthali University, Banasthali
- Member, Technical Committee in DST funded project (Centre for Education and Research in Basic Sciences) at Banasthali University
- Member, Placement & Counseling cell of University of Kota, Kota
- Member, Editorial Board of University Prospectus for the session 2013-14
- Member, NAAC coordination committee of the University of Kota, Kota
- Additional Dean, Student's Welfare (ADSW), University of Kota, Kota
- Member, Committee of Course (COC)-Applied Physics, University of Kota, Kota
- Member, Anti Ragging Squad, University of Kota, Kota
- Coordinator, Five year Integrated B.Sc-M.Sc (Physics) Course started in 2013-14
- Member Secretary, Interdisciplinary Centre/Cell for small and Medium Enterprises.
- Member Secretary, International Students' Office/Foreign Students' College
- Member of the committee constituted for the NCTE visit at University of Kota, Kota for M.P.Ed. Course.
- Member of NAAC-SSR preparation committee, University of Kota, Kota
- Incharge / Nodel Officer, Smart Village, University of Kota, Kota
- Convener, Executing Committee for Smart Village, University of Kota, Kota.
- Member Secretary, Coordination Committee for Smart Village, University of Kota, Kota
- Member, NIRF proposal / data submission Committee of University of Kota, Kota
- Member Secretary, Internal Quality Assurance Cell (IQAC), University of Kota, Kota
- Member, Organizing Committee, Workshop on Academic Ethics and Integrity
- Coordinator, B.Sc. (Pass / Hons.) Courses in 2017-18 and 2018-19.
- Member, NAAC Steering Committee, University of Kota
- Member, Organizing Committee, Workshop on GST held at University of Kota, Kota
- Member, Organizing Committee, Workshop on GST/GeM Portal/E-procurement held at University of Kota, Kota
- Head, Department of Physics, University of Kota, Kota
- Convener, Result Declaration Committee, University of Kota, Kota
- Centre Superintendent, University of Kota, Kota Examinations
- Convenor, Annual Quality Assurance Report (AQAR) Committee of the University
- Centre Superintendent in D.L.Ed. Exam 2020 conducted at University of Kota, Kota
- Centre Superintendent in REET 2021 conducted at University of Kota, Kota