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https://scholar.google.co.uk/citations?user=WYPAqTQAAAAJ&hl=en
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Education and Training

2012 **Ph.D. (Physics)** University of the Punjab, Lahore, Pakistan.
-Department of Physics,
-Thesis: Ferromagnetism recognition approaches based on GaN and ZnO doped with Rare earth metals for Spintronics Applications

2007 **MPhil (Physics)** Bahauddin Zakariya University, Multan, Pakistan.
-Department of Physics
-Thesis: Structural & Magnetic Characterization of Cd-Sr Substituted W-type Barium Hexa-ferrites Synthesized through wet and dry methods

Teaching and Research Experience

2020-till **Associate Professor**
Centre for Advanced Studies in Physics,
Government College University, Lahore

2012-2020 **Assistant Professor**
Centre for Advanced Studies in Physics,
Government College University, Lahore

- Incharge of Accelerator Lab &
-Materials Synthesis and Simulation Laboratory

-Plan research regarding material sciences
- Teaching MPhil, PhD and BS students

2008-2009 **Visiting lecturer**,
Department of Physics, University of the Punjab, Lahore
-BS Courses taught: Basic Electronics, Semiconductor and Solid State Devices

Awards, Scholarships and Honours

2012	**HEC** Approved Supervisor
2010	**Qualify GRE general (2007) and GRE GAT (Subject)** test conducted by NTS
2009	**Awarded IRSIP Scholarship for Ph.D., (six month experimental work) in the University of the York, UK** by Higher Education Commission, Islamabad, Pakistan.
2007	**2nd Position** in M.Phil. Physics Department, B.Z.U, Multan.
2007	**Awarded Indigenous Scholarship** for Ph.D. study by Higher Education Commission, Islamabad, Pakistan.

Academic and Research Interests

Courses
Advanced Quantum Mechanics
Basic Electronics
Semiconductor and Solid State Devices
Advanced Magnetic Materials and Devices
Nanotechnology and Renewable Energy Resources
Physics of Materials
Soft Condensed Matter Physics
Condensed Matter Physics and Complex Systems
ABC of DFT
Spintronics
Quantum Optic

Research Interest
Nanostructured Materials
Thin Films
Solar Materials
Magnetic Materials, Hard and Soft Ferrites
Semiconductor Device Physics
Spintronics (Half-Metallic, DMS)
Energy storage Materials
First Principle studies under the framework of DFT

PhD Theses supervised

2022-2025	Tunable ferrelctric and ferrmagnetic properties of monochalcogenides multiferroics for Non-Volatile Memory Devices, Mr. Irfan Aslam, in progress
2022-2025	Huesllor alloys for spintronics, Ms. Abeera Ijaz Saeed, in progress
2020-2023	**Synthesis and Characterization of Thermoelectric Materials for Efficient Energy Harvesting, Mr. Akhlaq Ahmed, Completed**
2019-2022	Impact of Ni addition in the High Strength Carbidic Austempered Ductile Iron, Mr. Farhan Ali, in progress
2019-2022	Structural, optoelectronic and magnetic properties of double perovskite compounds: First principles study, Mr. Hafiz Saad Ali, in progress
2017-2020	**Investigation of stable organic and inorganic perovskites for the applications of optoelectronic devices, Ms. Saba Maqsood, Completed**
2019-2022	**Potential use of magnesium based hydrides in hydrogen storage: First Principles study, Mr. Hafiz Hamid Raza, Completed**
2017-2020	**Tunability of microwave bandwidth and absorption loss in hexaferrite composites, Mr. Mohsin Ishfaq Piracha, Completed**
2015-2018	**Synthesis and electromagnetic properties of metal substituted Ba-based hexaferrites, Ms. Sidra Younus, Completed**
2015-2018	**First principle investigation of physical properties of perovskite oxides compounds through modified Becke-Johnson potential, Ms. Bushra Sabir, completed**
2015-2018	**Bandgap engineering of ternary chalcopyrite structures for photovoltaic applications: First principle study, Mr. Muhammad Shahzad Yaseen, completed**
2015-2018	**Tailoring physical properties of polymeric materials by ion implantation, Mr. Athar Naeem Akhtar, completed**
2014-2017	**Ion implantation and doping of rare earth metals to tailor the multiferroic properties of $BiFeO_3$, Ms. Sadia Sharif, completed**

MS/M.Phil Theses supervised

2023-2025

2023-2025

2023-2025

2022-2024 Exploration of the photovoltaic properties of oxide-based double perovskite: An experimental and theoretical approach by **Hummaira Khan**

2022-2024 Electronic, Magnetic, Elastic and Thermodynamic properties of Half-Heusler alloys for spintronic applications by **Maryam Touqir**

2022-2024 Synthesis of high-performancee Ni-rich cathode materials for Li-ion batteries by **Urwa Tul Aysha**

2022-2024 Structural and Optoelectronic Properties of Lead-free Double Perovskite for Photovoltaic: An Experimental and Theoretical investigations by **M. Basit Shakir**

2021-2023 Synthesis and characterization of lead-free double perovskite for photovoltaic applications by **Ahmad Ayyaz**

2021-2023 Fabrication of Ni-rich layered oxide cathode material for high-performance Li-ion batteries by **Ahmad Usman**

2021-2023 Silicon Sensors Qualification for the phase-II upgrade of the CMS outer tracker by **Majid Hussain**

2020-2022 Experimental and theoretical investigation of Structural, electronic, optical and magnetic properties of double perovskite for spintronic applications by **Muhammad Irfan**

2020-2022 First principles investigation of transition metal hydride compound design for hydrogen storage performance by **SYED FARHAN ALI SHAH**

2020-2022 Structural, elastic, electronic, optical and thermoelectric properties of metal based chalcopyrite semiconductor for photovoltaic application: First principles studies by **Maleeha Shafiq**

2020-2022 Investigation of structural and electrochemical performance of sodium based layered transition metal oxide by **Shaista Tahir**

2019-2021 First principles study of the structural, electronic and optoelectronic properties ofA_2BX_6 double perovskite compounds by **M Ali Khalid**

2019-2021 Synthesis and Characterizations of SnO_2/TiO_2/MXene composites for electron transport layer in dye sensitized solar cell by **M Bilal Jafer**

2019-2021 Synthesis and characterization of double perovskite oxide La2B/SiO6 (B/= Co, Ni and Fe) compounds using solid state route by **Faizan Ul Hassan**

2019-2021 Synthesis and characterization of Na and Fe co-doped Lithium Cobalt Oxide Cathode for Li-ion batteries by **Ali Hamza**

2019-2021 First Principles Investigations of layered cathode material for Lithium-ion Batteries by **M Noukhaiz**

2018-2020 Characterization of La-doped $BaZrO_3$ compounds by solid-state reaction method for optoelectronic applications by **Khurram Shehzad**

2018-2020 A facile hydrothermal synthesis and characterization of double perovskite oxide A_2FeMnO_6 (A= Ba, La, Sr, and Ce) nanoparticles for optoelectronic applications by **Saqlain Dar**

2018-2020 Structural, electronic, optical and thermal properties of $CsPb_{1-x}Ge_xI_3$ compounds for solar cell applications: A first principle study by **Abdul Ghafar**

2018-2020 A first principle study of structural, electronic, thermoelectric and magnetic properties of Ti doped XTe (where X= Ca, Sr and Ba) for spintronics applications, by **Khawar Ismail**

2017-2019 Synthesis and characterization of antiperovskite Oxide Ba_3SnO for spintronic devices by **Naveed Jafer**

2017-2019 Synthesis and characterization of spinel ferrites adsorbents magnetic nanoparticles for water treatment, **Abdullah**

2017-2019 Structural, electronic, thermal, optical and magnetic properties of ($AMnTe_2$, A=Li, Na, K) for spintronics applications: A first principle study, **by Najma Yaqoob**

2016-2018 Optoelectronic and thermal properties of $LiXH_3$(X=Ba, Sr and Cs) for hydrogen storage materials: A first principle study, **by Hafiz Hamid Raza**

2016-2018 Synthesis of Praseodymium doped Nano crystalline $LiCo_{1-x}Pr_xO_2$ cathode material by Sol-Gel method for Li-ion battery **by Kanza altaf**

2016-2018 Dosimetry analysis of cervical cancer patient using rapid arc treatment planning by **Farrukh Huma**

2016-2018 Influence of diamagnetic tin substitution on cobaltite $LaCoO_3$ emerging materials for spintronic devices **by Usman Meraj**

2016-2018 Synthesis and characterization of Ni doped Zinc Telluride semiconductors by solid state method **by Hafiz Muhammad Tahir Iqbal**

2016-2018 First principle study of electronic, optical and thermal properties of *A*SnO3 (*A* = Ba, Sr, and Cs) for optoelectronics application **by Um-e-Hani**

2015-2017 On the properties of transition metal doped perovskite manganites: an experimental and theoretical investigation by **Ammara Sajjawal**

2015-2017 Effect of Fe-Gd co-doped on perovskite manganites for the application of magnetic storage devices by **Iram Habib**

2014-2016 Synthesis and Characterization of Nano-Crystalline $LiCo_{1-x}La_xO_2$ (with x=0.0, 0.04, 0.08, 0.12, 0.16 and 0.2) cathode material prepared by Sol-Gel process for Li-ion battery by Ch. **Ghulam Fareed**

2014-2016 Optical and structural properties of Cadmium Sulfide nano particles for solar cell applications by **Syed Muhammad Osama Ali**

2014-2016 Synthesis and characterization of Sn doped $BiFeO_3$ multiferroic nanoparticles by **Muhammad Umair**

2013-2015 Structural, morphological and optical properties of Lanthanum doped nanocrystalline SnO_2, by **Hafiz Shahab Arif**

2013-2015 Investigation of structural, morphological, electronic and optical properties of Au irradiated ZnNiO thin films prepared by pulsed laser deposition, by **Hajira Hanif**

2013-2015 Synthesis and characterization of Li doped ZnS nanoparticles by **Hafiz Aftab Iqbal**

2013-2015 Synthesis and Characterization of Vanadium (V) doped Zinc Oxide (ZnO) Nanoparticles Using Chemical Route by **Hafiz Saad Ali**

2013-2015 Synthesis and characterization of Cd-Mn doped $BiFeO_3$ multiferroic nanoparticles by **Bilal Ishaq**

2012-2014 Effects of carbon ions implantation on mechanical properties and corrosion resistance of magnesium alloys, by **Muhammad Kashif Mumtaz**

2012-2014 Synthesis and characterization of Nd-Mn substituted Y-type hexaferrites Using chemical method by **Muhammad Ehsan-ul-haq**

PhD/MS/BS **Theses Co-Supervised**

2021-2023	Structural, thermoelectric, elastic, and electronic properties of metal hydride for hydrogen storage application: A first principle study by **Saba Abdul Shakoor** (MPhil Chemistry)
2018-2020	Hydrogen storage materials for fuel cells: A first principle calculation of physical properties by **Samia Razzaq** (MPhil Chemistry)
2019-2023	COMPUTATIONAL STUDY OF PEROVSKITE TYPE HYDRIDES $EuXH_3$ (Pd, Pt) FOR HYDROGEN STORAGE APPLICATIONS by **Muhammad Umer (**B.Sc. Hons. Chemistry**)**

Workshops, Conferences and Seminars/Talks

2024	**Invited Speaker, 6th International Workshop on Ion Beam Applications Technical Program 04-06 Dec. 2024 at National Centre for Physics, Islamabad**
2024	**Invited Speaker, International Conference on Emerging Trends in Physics 2024 (ICETP24), October, 8-9 at Department of Physics, University of Lahore**
2024	**Invited Speaker, 1st International Conference on Applied Sciences and Technology (ICAST-2024) at Department of Physics, Baba Guru Nanak University Nankana Sahib, 24-25 October**
2024	**Invited Speaker, 5th Annual International Conference on Advances in Materials Science (AIMS) at Department of Physics, Education University Lahore, on November 27-28**
2024	**4th ii Science International Conference, Recent Advances in Photonics and Physical Sciences, organized at Lahore College Women University (LCWU) on March 4-6, 2024, Department of Physics**
2024	**Invited Speaker, International Conference on 3D Printed and Energy Conversion materials, January, 25-26, 2024, Department of Physics, University of the Punjab, Lahore.**
2024	**National training workshop, Capacity Building of the project directors/managers of PSDP projects on PMES, 9-11 January, 2024, organized by M/O PD&SI in collaboration with P&DD, Govt. of the Punjab, Lahore**

2023 **AIMS-2023, the 4th Annual International Conference, organized by Department of Physics, Division of Science and Technology, University of Education, Lahore, November 29-30, 2023.**

2023 **Invited Speaker, 5th International Workshop on Ion Beam Applications, 11 - 13 September, NCP, Islamabad**

2023 **Invited Speaker, 2nd International Conference on emerging trends and Innovations in Nanotechnology, 17 and 18 June 2023, Department of Physics, Ripha International University, Lahore Campus**

2023 **Participate, International Biophysics Workshop Nanoscale Materials and Biological Physics March 20-21, 2023 LUMS, Lahore**

2023 **Invited Speaker, 2nd International Conference on "Emerging Trends in Physics" 20th – 22nd March 2023, LCUW, Lahore**

2023 **Invited Speaker, 1St International Conference on Physics Horizons and Multidisciplinary Science, 27-28 February 2023, COMSATS University, Islamabad- Lahore Campus**

2022 **Invited Speaker, 4th International Workshop on Ion Beam Applications, 03 - 05 October, NCP, Islamabad**

2022 **Invited Speaker, Recent Trends in Theoretical Physics, One day Research Symposium, June, 01, University of Sahiwal, Sahiwal**

2022 **International School on Physics & Allied Disciplines (ISPAD-2022) Nanosciences and Technology Activity, 14-18 March, 2022, NCP, Islamabad**

2022 **Organiser and Speaker, 17TH NATIONAL SYMPOSIUM ON FRONTIERS IN PHYSICS, Government College University, Lahore, December 01-03, 2022**

2020 **Invited Speaker, 1st International Conference on Advances in Materials Science (AIMS 23-24 July 2020) University of Education, Lahore**

2019 **Invited Speaker at, International Conference on Solid State Physics December 08, 2019, ICSSP-19, University of the Punjab**

2019 **PU International Symposium on Advanced Energy Storage Materials, on 4-6 November, University of the Punjab, Lahore**

2019 **International** CASTEP training workshop 2019, 19th - 23rd August Oxford University, UK

2019	**Invited Speaker, 16th International Symposium on Advanced Materials, 21-25 October, Islamabad, Pakistan**
2019	**Invited Speaker, 16th National Symposium Frontier in Physics, 29-31 Jan. 2019 GCU, Lahore**
2018	**Invited Speaker, International Symposium on applications of radioisotopes, November, Department of Physics, GC University, Lahore**
2018	**Invited Speaker, International** Workshop on Ion Beam Applications, National Centre for Physics, Islamabad, 09-11 July
2017	International Conference on Solid State Physics – 10-14 December, University of the Punjab, Lahore
2017	**Invited Speaker 15th National Symposium Frontier in Physics, 29-31 Jan. 2017 GCU, Lahore**
2016	**Invited Speaker on 14th National Symposium Frontier in Physics, 23-25 Nov. 2016 GCU, Lahore**
2016	National Workshop on Ion Beam Applications, National Centre for Physics, Islamabad, 2-3 June
2015	Invited speaker on one-day workshop, "Physics and Technology of Accelerators" National Centre for Physics, Islamabad, 23, November 2015
2014	International Conference on Physics and Contemporary Needs (ICPCN- 2014) CAPS-Physics, GC University, Lahore
2007	Conference on X-Ray diffraction study by **Khwarzimic Science Society** Center of Solid State Physics, Lahore, Pakistan.
2007	**7**th **International Symposium on Advanced Materials**, Islamabad, Pakistan.

Computer, Technical Skills and Research Projects

Simultion Code	WIEN2K, CASTEP
Math Packages	Mathematica, **FORTRAN Programming, LabVIEW**
OS	Windows, Mac OS X, Linux, DOS.
Computer Language	Python

Instrument handling	X-Ray Diffractometer, Structure analysis Vibrating Sample Magnetometer (VSM) Thin Film Growth and Characterization Scanning Electron Microscopy (SEM), Energy Dispersive Spectroscopy (EDS) Atomic Force Microscopy (AFM) Pelletron Accelerator Magneto-optic Kerr effect (MOKE) Molecular Beam Epitaxy (MBE) Hydraulic press Digital Furnace Dielectric Measurements I-V Characteristics measurements by 4-probe system (Hall effect) Fourier Transform Infrared Spectroscopy (FTIR) Solar Simulator

Research Projects

2019-2020	Magnetic Composites Materials, Emerging Designer Adsorbents for Aqueous Pollutants Removal and Water Treatments, Faculty research project, ORIC GC University, Lahore, Total Award Amount: Rs. 300,000/-
2012-2013	Synthesis, characterization, and first principles study of vanadium doped half-metallic ferromagnetic II-VI (ZnS, ZnSe, and ZnTe) systems, **Higher Education Commission, Pakistan,** Total Award Amount: Rs. 50,0000/- Approved.
2012-2013	Synthesize and characterization of impurity doped Fe_3O_4 nanoparticles by chemical route, **GC University, Lahore,** Completed. CASP Rs. 100000/-

List of Journal Publications

Year 2026

1. Urwa tu Ayesha, ***G. Murtaza***, Synthesis, characterization, and DFT simulation to analyze electrochemical performance of ternary transition metal oxides LiNi0.80X0.10Nb0.10O2(X=Cu, Zn, Y) for lithium-ion batteries, Journal of Physics and Chemistry of Solids 208 (2026) 113074

Year 2025

2. Sundus Ajmal, ***G. Murtaza***, Fizza Aftab, Wajid Ali, Ahmad Ayyaz, Ali Akremi,

and Imed Boukhris, A Computational Investigation of Structural, Electronic, Thermoelectric, and Electrochemical Properties of Binary Transition Metal NaTM1/3Fe2/3O2–δ (TM = Ag, Nb, W) as Na-ion Battery Cathode Materials, Journal of The Electrochemical Society 172 (2025) 080527

3. M. Awais Ahmed, Shoaib Ullah, Khalil Ur Rehman, ***G. Murtaza***, Ahmad Ayyaz, M. Irfan, Imen Kebaili, Ali El-Rayyes, A First-Principles Study of the Structural, Optoelectronic and Thermoelectric Properties of Ba2XIO6 (X = Li, K and Rb) for Energy Harvesting, Brazilian Journal of Physics (2025) 55:221
4. Fizza Aftab, ***G. Murtaza***, Sundas Ajmal, Ahmad Ayyaz, Ali Akremi, Samah Al-Qaisi, Hind Albalawi, Mohd Taukeer Khan, First-principles investigation of transition metal-substituted layered oxides $KMn_{2/3}TM_{1/3}O_2$ (TM = Cr, Nb, Ag) as promising cathode materials for potassium-ion batteries, Journal of Physics and Chemistry of Solids, 207 (2025) 112962
5. Sayada Ayesha Zia Bukhari, Ayesha Parveen, Muhammad Sajid, Hassan Ali, Gamil A. A. M. Al-Hazmi, Khawar Ismail, ***Ghulam Murtaza***, Yazen. M. Alawaideh, Muhammad Jamil, First-principles study of structural, electronic, optical, and thermoelectric properties of $BaTMSe_2$ (TM = Fe, Co, and Ni) for optoelectronic devices, Journal of Sol-Gel Science and Technology (2025) 1-15
6. Ahmad Ayyaz, ***G Murtaza***, Exploring hydrogen storage potential, thermodynamic, and optoelectronic characteristics of novel double perovskite hydrides Na_2LiXH_6 (X = Al, Sc, and Ga): DFT analysis, Journal of Energy Storage 122 (2025)116650
7. Samah Al-Qaisi, Nazia Iram, N. Sfina, Abderrazak Boutramine, Hamad Rahman Jappor, Amani H. Alfaifi, Hind Saeed Alzahrani, Habib Rached, Malak Azmat Ali, ***G. Murtaza***, Comprehensive DFT Study of K2TlZI6 (Z = Al, In) Double Perovskites: Structural Stability and Potential for Optoelectronic and Thermoelectric Energy Harvesting, Physica B: Condensed Matter (2025)
8. Mudassir Ishfaq, Ali Raza Iftikhar, Hassan Ali, Khawar Ismail, ***Ghulam Murtaza***, Gamil A. A. M. Al-Hazmi, Muhammad Jamil, Theoretical analysis of double perovskite A_2HfNiO_6 (where A = Ba, Ca, and Sr) for structural, elastic optical, electronic, thermoelectric and magnetic properties for spintronics applications, Materials Science and Engineering B 317 (2025) 118198
9. Ahmad Usman, ***G. Murtaza***, Ahmad Ayyaz, Imed Boukhris, Hafiz Irfan Ali, M. Basit Shakir, Hanof Dawas Alkhaldi, Maryam Touqir, Thamraa Alshahrani, Muhammad Umair Ashraf, First-principles exploration of redox, electronic, thermoelectric, and thermodynamic properties of binary transition metal $NaX_{1/3}Mn_{2/3}O_2$ (X = Ag, W, Zr) for enhanced performance of Na-ion batteries, Inorganic Chemistry Communications, 175 (2025) 114157
10. Maryam Touqir, ***G. Murtaza***, Ahmad Ayyaz, Ahmad Usman, M. Basit Shakir, Saba Saleem, Hummaira khan, Muhammad Umair Ashraf, Khalid M. Elhindi, First-principles calculations to investigate Electronic, half-metallicity, thermodynamics, thermoelectric and mechanical properties of new Half-Heusler alloys FeCoZ (Z = Si, Ge, and Pb) Computational and Theoretical Chemistry, (2025)
11. Sidra Younus, ***G. Murtaza***, Haya Alhummiany, M Hassan, Murefah Mana Al-Anazy, Q Mahmood, El Sayed Yousef and Ali S Alshomrany, Investigation of structural, magnetic, and dielectric properties of $BaFe_{12}O_{19}/Pr_{1-x}Sr_xCoyMn_{1-y}O_3$ composites; an emerging aspirant for high frequency applications, Physica Scripta, 100 (2025) 015925
12. Maryam Masood, ***Ghulam Murtaza***, Nadia Ahmad, Maryam Touqir, Iram Hafiz, Ah mad Usman, Ahmad Ayyaz, Nazir Ahmad, An ab-initio study of the physical

properties of Ge-based perovskites ($XGeH_3$: X=Mg, Ca, and Sr) for potential hydrogen storage application, International Journal of Hydrogen Energy 97 (2025)981-993

13. Ahmad Usman, ***G. Murtaza***, Muhammad Younas, Ali Akremi, Ahmad Ayyaz , Haya Alhummiany, Syed Kashif Ali, Kanza Altaf, Hisham S.M. Abd-Rabboh, Sadia Sharif, Q. Mahmood, Study of Pr doped nanocrystalline LiCoO2 cathode material for spintronic, Materials Chemistry and Physics 329 (2025) 130133
and energy storage applications: A theoretical and experimental analysis
14. Ahmad Ayyaz, ***G. Murtaza***, Synthesis, Characterization, and Photocatalytic Performance of Gold Ions Implanted TiO2/Graphene Nanocomposites for Efficient Dye Photodegradation, Ceramics International (2025)
15. Ahmad Ayyaz, Imed Boukhris, Ahmad Fraz, Afaf Khadr Alqorashi, Q. Mahmood, Lamiaa Galal Amin, ***G. Murtaza***, M. Basit Shakir, Exploring Energy Harvesting Potential of Lithium-Based Halide Perovskites Li_2CuSbZ_6 (Z=Cl, Br): First Principles Approach, Materials Science in Semiconductor Processing, 185 (2025) 108968
16. Zoha Afzal, Sajid Butt, Muhammad Rizwan, Sajid Ur Rehman, Saeeda Sajjad, Zahid Usman, ***G. Murtaza***, Density Functional Theory (DFT) Perspectives of Thermoelectric Transportation in Sr-doped $LaCoO_3$, Next Materials 7(2025)100383
17. Mudassir Ishfaq, Muniba Urooj, Muhammad Sajid, Khawar Ismail, Rimsha Baqeel, Ejaz Ahmad Khera, Rajwali Khan, Sattam Al Otaibi, Khaled Althubeiti, Hassan Ali, ***Ghulam Murtaza***, Muhammad Jamil, First principles investigation of structural, electronic, optical, transport properties of double perovskites X2TaTbO6 (X= Ca, Sr, Ba) for optoelectronic and energy harvesting applications, Journal of Physics and Chemistry of Solids 197 (2025) 112432
18. Hummaira Khan, ***G. Murtaza***, Ahmad Ayyaz, M. Basit Shakir, Maryam Touqir, Khubaib Iqbal, Ahmad Usman, Sohail Mumtaz, Ihab Mohamed Moussa, Structural stability, optoelectronic, thermoelectric, and elastic characteristics of X2ScBiO6 (X= Mg, Ca, and Ba) double perovskites for energy harvesting: First-principles analysis, Materials Science in Semiconductor Processing, 185 (2025) 108911

Year 2024

19. Ahmad Ayyaz, G. Murtaza, Huda Alkhaldi, Haya Alhummiany, Akhlaq Ahmed, Hisham S.M. Abd-Rabboh, Q. Mahmood, M. S. Al-Buriahi, H. Elhosiny Ali, Investigation of Structure, Morphology, Dielectric, and Optoelectronic Properties of La-Doped $BaZrO_3$: Experimental and DFT Analysis, Journal of Materials Science: Materials in Electronics 35 (2024)2110

20. Hafiz Irfan Ali, Nawaz Muhammad, G. Murtaza, Maha Naeem, Hafiz Hamid Raza, Ahmad Usman, Saba Saleem, M. Basit Shakir, Majed Y. Almashnowi, Muhammad Umair Ashraf, Amel Ayari-Akkari, *Exploration of physical aspects of Li2AgAsZ6 (Z = F, Cl, Br, I) double perovskites for energy harvesting perspectives, Inorganic Chemistry Communications, 170 (2024) 113295*

21. Saba Saleem, Nawaz Muhammad, ***G. Murtaza,*** DFT Study of Structural, Electronic, Magnetic, Elastic, and Thermoelectric Properties of Ta-based Half-Heusler Alloys CsTaX (X=C, Si, and Ge) for Spintronics and Thermoelectric Technologies, Computational and Theoretical Chemistry (2025)

22. M. Basit Shakir, ***G. Murtaza***, Ahmad Ayyaz, Maryam Touqir, Hummaira Khan, Ali Akremi, Hafiz Irfan Ali, Ahmad Usman, Abeer S. Altowyan, Khubaib Iqbal, Computational insight on K_2AuBiX_6 (X = F, Cl, Br, I) double perovskites to comprehensively investigate mechanical, optoelectronic, and thermoelectric features for green energy applications, Materials Science and Engineering: B, 310, (2024) 117667
23. Maha Naeem, Nawaz Muhammad, ***G. Murtaza*** , Hafz Hamid Raza , Hafz Irfan Ali, First principles investigations of chalcogenides perovskites for optoelectronic applications, Journal of Material Research (2024)

24. Maryam Touqir, ***G. Murtaza***, Ab initio analysis of structural, electronic, magnetic, thermodynamics, and elastic properties of the Half-metallic Half Heusler alloy ZMnAs (Z= Be, Mg) for spintronics application, Materials Semiconductor and processing 184(2024)108807
25. Ahmad Ayyaz, Samah Saidi, Noura Dawas Alkhaldi, ***G. Murtaza***, N. Sfina, Q. Mahmood, Lead-Free Double Perovskites Rb2TlSbX6 (X=Cl, Br, and I) As an Emerging Aspirant for Solar Cells and Green Energy Applications, Solar Energy 279 (2024) 112844
26. Ahmad Ayyaz, G. Murtaza, Akhlaq Ahmed, J. El Ghoul, Mayeen Uddin Khandaker, Revealing vibrational, elastic, electro-optic, and thermoelectric aspects of double perovskites Na2ScCuX6 (X=Cl, Br) for energy harvesting applications by implementing DFT approach, Materials Chemistry and Physics 325 (2024) 129808
27. Basit Shakir, ***G. Murtaza***, Probing the Structural, Electronic, Thermodynamic, Optical, and Thermoelectric Features of Lead-Free Double Perovskites Na2ScAgZ6 (Z=Br, I) for Green Energy Harvesting, Inorganic Chemistry Communications (2024)
28. Ahmad Usman, ***G Murtaza***, Synthesis, characterization, and evaluation of improved electrochemical performance of vanadium and zinc co-doped Ni-rich oxide cathode materials: Experimental and first-principles study, Ionics (2024)
29. ***G. Murtaza***, M. Usman Meraj, M. Hassan, Muhammad Younas, Nuriyah Mohammed Aloufi; Haya Alhummiany, Murefah mana Al-Anazy, Abdulaziz A Alshihri; Syed Tahir Abbas Shah; Q. Mahmood, Study of structural and magnetic properties of Sn doped cobaltite perovskite $LaCoO_3$: Experimental and DFT Approach, Journal of Materials Science: Materials in Electronics (2024)
30. Hafeez Ur Rehman, Muhammad Jameel, Ning Wang, ***G. Murtaza***, Maleeha Shafiq, Muhammad Usman, Zahid Usman, Muhammad Zulfiqar, Moonis Ali Khan, A DFT Investigation on Halide Double Perovskites X_2ScTlI_6 (X= Rb, Cs) For Thermoelectric and optoelectronic applications, Materials Today Communications (2024)
31. Ahmad Ayyaz, ***G. Murtaza***, Investigation of Promising Lead-Free Double Perovskites Rb 2 TlBiZ 6 (Z=Cl, Br, and I) as Sustainable Alternatives for Photovoltaic and Wasted Heat Conversion Applications: First Principles Analysis, Journal of Inorganic and Organometallic Polymers and Materials (2024)
32. Ahmad Ayyaz, ***G. Murtaza***, Norah Algethami, Ahmad Usman, M. Basit Shakir, Q. Mahmood, Influence of alkali metal cation modifications on physical characteristics

of double perovskites Rb2XTlBr6 (X=Li, Na, K): First-principles study for solar energy and thermoelectric applications, Physica B: Condensed Matter 690(2024) 416245

33. Murefah Mana Al-Anazy, Ahmad Ayyaz, ***G. Murtaza***, Abdulaziz A. Alshihri, Ahmad Usman, DFT insight on stability, optoelectronic, and thermoelectric features of Na3XO (X = Cu, Ag) anti-perovskites: Promising materials for sustainable energy applications, International Journal of Quantum Chemistry (2024)
34. Urwa tul Ayesha, ***G. Murtaza***, First Principles Calculations of Novel Binary Transition Metal Oxides $NaCr_{0.5}X_{0.5}O_2$ (X = Y, Tc, Rh) for Na-Ion Batteries, Journal of the Electrochemical Society (2024)
35. H. Saad Ali, ***G. Murtaza***, Ahmad Ayyaz, Khawar Ismail, Maryam Touqir, Hafeez Ur Rehman, Yousef Mohammed Alanazi, First-principles predictions of structure, half-metallic antiferromagnetism, optoelectronic, and elastic properties of double perovskites A_2TaNiO_6 (A = Ca, Sr, and Ba) for energy harvesting, Materials Science in Semiconductor Processing 181 (2024) 108638
36. Hafiz Irfan Ali, Nawaz Muhammad, ***G. Murtaza***, Maha Naeem, Ahmad Ayyaz, Muhammad Ali, M. Basit Shakir, First-principles study of Na2AgAsZ6 (Z = F, Cl, Br, I) of structural, elastic, optoelectronic, and transport properties of lead-free halide double perovskites for energy conversion applications, Inorganic Chemistry Communications 165, (2024) 112577
37. Ahmad Ayyaz, ***G. Murtaza***, DFT Insight on Future Prospects of Double Perovskites A 2 YCuZ 6 (A=Rb, Cs and Z=Cl, Br) for Energy Conversion Technologies, Journal of Inorganic and Organometallic Polymers and Materials (2024)
38. Ahmad Ayyaz, ***G. Murtaza***, Probing structural, mechanical, electronic, optical, and transport properties of K 2 InSbX 6 (X=Cl, Br) for optoelectronic and thermoelectric applications: DFT Investigation, Optical and Quantum Electronics (2024)
39. Ahmad Ayyaz, ***G. Murtaza***, Youssef Bakkour & Murefah mana Al-Anazy, Impact of Halide Ion Occupancy on Thermodynamic, Mechanical, Electro-optic, and Electron Transport Characteristics of Rb2CuAsX6 (X = F, Cl, Br) Double Perovskites Using Density Functional Theory, Journal of Inorganic and Organometallic Polymers and Materials (2024)
40. Umar Faryad, Muhammad Imran, Sidra Zawar, Muhammad Atif Yaqub, ***G. Murtaza***, Shahid M. Ramay and Shahid Atiq, Analysis of CNT and rGO Mediation for an Efficient Super-Capacitive Response in Cr-Doped Co3O4 Based Composites ECS J. Solid State Sci. Technol. 13 041005 (2024)
41. Ahmad Ayyaz, ***G. Murtaza***, Study of mechanical, optoelectronic, and thermoelectric properties of Rb2ScAuZ6 (Z = Br, I) for energy harvesting applications, Inorganic Chemistry Communications 165 (2024)112520
42. Ahmad Ayyaz, ***G. Murtaza***, Abdulaziz A Alshihri; M. Basit Shakir; Naeema Naeem; Murefah mana Al-Anazy; Muhammad Ali, A comprehensive DFT insight on physical features regarding potential applicability of double perovskites K2YCuZ6 (Z=Cl, Br) for energy harvesting applications, Chemical Physics Letter 843(2024)141258
43. M. Basit Shakir, ***G. Murtaza***, Ahmad Ayyaz, Hummaira Khan, Hafiz Irfan Ali & Maryam Touqir, Ab initio analysis of structural, optoelectronic, thermoelectric, and elastic characteristics of K2MBiBr6 (M = Na, Ag, and Cu) for green energy, Optical and Quantum Electronics 56 (2024)879
44. Muhammad Ahsan Shafique Ghulam Farid, Fozia Shaheen, Zeeshan Zaheer, ***G. Murtaza***, Sadia Sharif, Riaz Ahmad, Optimizing Energy Storage: Carbon

Implantation in NiO Matrix Unveils C–NiO's Hybrid Capacitive and Battery-like Behavior with Enhanced Electrochemical Performance, Chemical Physics Letters 842(2024)141213

45. Hafiz Hamid Raza, ***G. Murtaza***, Maleeha Shafiq, Saba Abdul Shakoor, First-principles calculations on structural, mechanical and thermodynamic properties of orthorhombic Mg2BeTMH8 (TM=Ni, Cu and zn) for hydrogen storage applications, International Journal of Hydrogen Energy 62 (2024)637-651
46. Ahmad Usman, ***G Murtaza***, Ahmad Ayyaz, Maleeha Shafiq, Mohsin Ishfaq Piracha, H S Arif and Muhammad Zulfiqar, Investigation of Zinc and Chromium Substitution Nickel-rich LiNi1-x-yZnyCrxO2 Cathode Materials to Improve the Redox Reaction of Lithium-ion battery: A First-principles Study, Journal of The Electrochemical Society (2024)
47. M. Umer, ***G. Murtaza***, First principles investigation of structural, mechanical, thermodynamic, and electronic properties of Al-based perovskites XAlH3 (X=K, Rb, Cs) for hydrogen storage, International Journal of Hydrogen Energy (2024)
48. Saba Abdul Shakoor, ***G. Murtaza***, Hafiz Hamid Raza, Nazir Ahmad, Muryam Iftikhar, Abdul Hakim Shah, Ahmad Ayyaz, Structural, electronic, thermoelectric, thermodynamic, and elastic properties of XPH2 (X = Li, Na, K) for hydrogen storage application: A first principle study Computational and Theoretical Chemistry, (2024)
49. M. Qasim Shah, Maleeha Shafiq, Azhar Naeem, ***G. Murtaza***, Ahmad Ayyaz, Ahmad Usman, Shabana Maher Deen, Mohamed A. El-Sheikh, Effect of position occupancy of different elements on the structural stability, optoelectronic, thermoelectric and elastic properties of Cs2CuAsX6 (X: Cl, Br, I) halide double perovskite: DFT analysis, Materials Science in Semiconductor Processing, 174 (2024) 108187
50. Ahmad Ayyaz, ***G. Murtaza***, Structural, morphological, elastic, optoelectronic and thermoelectric properties of lead-free double perovskite Na2AgBiBr6 for photovoltaic applications: Experimental and DFT insight, Ceramics International, (2024)
51. Ahmad Ayyaz· G. Murtaza· Ahmad Usman· N. Sfina· Ali S. Alshomrany· Sidra Younus· Saba Saleem·Urwa-tul-Aysha, Evaluation of Physical Properties of A2ScCuCl6 (A = K, Rb, and Cs) Double Perovskites via DFT Framework, Journal of Inorganic and Organometallic Polymers and Materials (2024)
52. Ahmad Ayyaz, ***G. Murtaza***, DFT exploration of elastic, optoelectronic, and thermoelectric properties of stable and eco-friendly double perovskites Cs2YAuX6 (X=Cl, Br) for green energy applications, Journal of Physics and Chemistry of Solids, (2024)
53. Maleeha Shafiq, Muhammad Qasim Shah, ***G. Murtaza***, Ahmad Ayyaz, Ahmad Usman, Muhammad Umer, Ab initio study of lead-free double halide perovskite X2GeSnCl6 (X= Na, K) compounds for energy conversion system, Arabian Journal of Science and Engineering, (2024)
54. Ahmad Ayyaz, ***G. Murtaza***, Akhlaq Ahmed, Shahid M. Ramay, Ahmad Usman, Ghulam Farid, Maha Naeem, Comparative DFT-based investigation of physical properties of Cs2MBiBr6 (M= Ag, Cu, and Au) Perovskites: Sustainable materials for renewable energy, Computational Condensed Matter, (2024)
55. Hafeez ur Rehman, ***G. Murtaza***, The investigation of structural, electronic, thermal, and elastic properties of X_2ZnH_4 (X= K, Rb and Cs) for hydrogen storage applications: DFT study, Optical and Quantum Electronics (2024)
56. Akhlaq Ahmad, ***G. Murtaza***, Investigating the novel thermoelectric properties of magnesium, calcium, and barium divanadate oxides (XV_2O_6 where X = Mg, Ca, and

Ba) for waste heat recovery applications in energy harvesting devices, Applied Physics A, (2024)

57. Akhlaq Ahmad, ***G. Murtaza***, Synthesis, characterization, and novel thermoelectric properties of Nb-based metal oxides XNb2O6 (X=Mg, Ca, Ba) for energy harvesting applications, Journal of Materials Research (2024): 1-14.
58. H. H. Raza, ***G. Murtaza***, The Structural, mechanical, phonon and pressure induced thermodynamic properties of X4Mg4H12 (X=Rb and Cs) for hydrogen storage applications via PBE-GGA and TB-mBJ potentials, Materials Science and Engineering B 300 (2024)117072
59. Ahmad Ayyaz, ***G. Murtaza***, Ahmad Usman, M. Umer, M. Qasim Shah, First Principles Insight on Mechanical Stability, Optical and Thermoelectric Response of Novel Lead-free Rb2ScCuBr6 and Cs2ScCuBr6 Double Perovskites, Materials Science in Semiconductor Processing 169 (2024) 107910

Year 2023

60. Maleeha Shafiq, Qasim Shahah, ***G. Murtaza***, Structural, elastic, electronic, optical and thermoelectric properties of metal based ternary chalcopyrite semiconductor for photovoltaic application: First-principles studies, OPTIK, 295(2023) 171502

61. Ahmad Ayyaz, ***G. Murtaza***, Maleeha Shafiq, M. Qasim Shah, N. Sfina, Sarfraz Ali, Exploring structural, thermodynamic, elastic, electro-optic, and thermoelectric characteristics of double perovskites Rb_2XInBr_6 (X = Na, K) for photovoltaic applications: A DFT approach, Solar Energy, 265 (2023) 112131
62. Saba Maqsood, ***G. Murtaza***, Bandgap tuning, mechanical and thermoelectric properties of Cs_2CuScX_6 (X = Cl, Br, I) halide ion substitution for optoelectronic devices using density functional theory, Physica Scripta (2023)
63. Ahmad Ayyaz , ***G. Murtaza***, M. Umer, Ahmad Usman, Hafiz Hamid Raza, Structural, elastic, optoelectronic, and transport properties of Na-based halide double perovskites Na_2CuMX_6 (M = Sb, Bi, and X = Cl, Br) as renewable energy materials: A DFT insight, Journal of Materials Research (2023)
64. Faisal, ***G. Murtaza***, The Study of Structural, Magnetic, and Microwave Absorbing Properties of Graphene/Hexagonal Ferrite for Microwave Absorber, Physica Scripta 98 (2023) 115938
65. Maleeha Shafiq, ***G. Murtaza***, Pressure induced variations in the band structure, optical and mechanical properties of lead free double halides perovskites K_2CuAsX_6 (X= Cl. Br): A first principles calculations, Inorganic Chemistry and Communications (2023)
66. Khawar Ismail, ***G Murtaza***, Ab initio calculation of structural, electronic, optical, and magnetic properties of delafossite $SMoO_2$ (S = Na, K, Rb, Cs) for spintronics, Applied Physics A (2023)
67. Khawar, ***G. Murtaza***, Study of Optical, Thermoelectric and Mechanical Properties of Cerium based Perovskites $CePO_3$ (P = Be, Ca, Mg), Physica B: Condensed Matter (2023)
68. Q. Mahmood, Shaista Tahir, Hind Albalawi, Taharh Zelai, Othman Hakami, Samah Al-Qasi, Md. Ferdous Rahman, A.I. Aljameel, ***G. Murtaza***, Mohamed Adam, Study of spin control on half metallic ferromagnetism and thermoelectric properties of

$MgEu_2(S/Se)_4$ for spintronic and energy harvesting devices, Journal of Physics and Chemistry of Solids, (2023)

69. Mariam Fatima, Abdul Ghaffar, Ghulam M. Mustafa, M. Younis, ***Ghulam Murtaza***, Shahid M. Ramay, Shahid Atiq, Optimization of dielectric phenomenon in 0.8[(1-x)$SrCoO_{2.29+x}Cr_2FeO_4$] + 0.2PZT tri-phase composites, Cermaics International, 49 (2023) 30999-31005
70. Shoib, ***G. Murtaza***, Tailoring magnesium based hydrides as potential and reversible materials for solid state hydrogen storage: A first principle study, Internationa Journal of Modern Physics B (2023)
71. Shaista Tahir, ***G. Murtaza***, Experimental and computational study of binary transition metal oxides $NaNi_{1/2}X_{1/2}O_2$ (X=Cr, Fe, Co and Cu) for energy storage applications, Materials Chemistry and Physics, 306 (2023) 128093
72. Syed Farhan Ali Shah, ***G. Murtaza***, First principles investigation of transition metal hydrides LiXH3 (X=Ti, Mn, and Cu) for hydrogen storage, Journal of Computational Electronics (2023)
73. Bisma, ***G. Murtaza***, First principles study of the structural, half-metallic ferromagnetism, magnetic, and transport properties of KXO2 (X = Pr, Nd, and Pm) hexagonal oxides, Solid state communication (2023)
74. Maryyam, H. Hamid, ***G. Murtaza,*** Computational determination of structural, electronic, magnetic and elastic properties of CsXB (X= Mg and Sr) do half-Heusler alloys as potential spintronic materials, Indian Journal of Physics (2023)1-8
75. Hind Albalawi, A. Azazi, Nessrin A Kattan, Samah Al-Qaisi, ***G. Murtaza***, Filiz Ercan, S. Bouzgarrou, M. Jadan, Study the Role of Spin in Ferromagnetism and Thermoelectric Characteristics of Spinel Chalcognides $MgEr_2(S/Se)_4$ for Spintronic and Clean Energy, Journal of Solid State Chemistry (2023)
76. M. Qasim Shah , ***G. Murtaza*** , Maleeha Shafiq , S. Sharif, Nicola A. Morley, Investigation of optoelectronic & thermoelectric features of $ZnCrX_2$ (X= S Se Te) chalcopyrite semiconductor using mBJ potential, Chinese Journal of Physics 12 (2023)
77. M. Abdullah, ***G. Murtaza***, Muhammad Azhar Khan, Synthesis and Characterizations of Graphene/Copper Ferrite for Efficient Arsenic Removal, Water Air Soil Pollut 234 (2023)276
78. Saqlain A Dar, ***G. Murtaza***, Study of Structural, electronic, Magnetic, and Optical Properties of A2FeMnO6 (A= Ba, La) double perovskites, Experimental and DFT Analysis, Colloids and Surfaces A: Physicochemical and Engineering Aspects (2023)
79. Syeda Rabia Ejaz, M. Azhar Khan, ***G. Murtaza***, Structural, Spectral, dielectric, and magnetic properties of Ca-Ba substituted $Sr_2Ni_2Fe_{28}O_{46}$ X-type hexaferrites, Applied Physics A (2023)
80. Hafiz Hamid Raza, ***G. Murtaza***, Samia Razaq and Abida Azam, Improving thermodynamic properties and desorption temperature in MgH_2 by doping Be: DFT study, Molecular Simulation (2023)
81. Hafiz Hamid Raza, ***G. Murtaza***, Maleeha Shafiq, Structural, phonon, thermodynamic, and electronic properties of $MgFeH_3$ at different pressures: DFT study, Computational and Theoretical Chemistry 1221(2023)114030
82. M. Irfan, ***G. Murtaza***, Nawaz Muhammad, Shaista Tahir, Hafiz Hamid Raza, B. Sabir, Muryam Iftikhar, S. Sharif, Experimental and theoretical studies of structural, electronic and magnetic properties of RE_2NiCrO_6 (RE=Ce, Pr and Nd) double perovskites, Physica E: Low-dimensional Systems and Nanostructures, 148(2023)115635

83. Mohsin Ishfaq Piracha, ***G. Murtaza***, Investigation of structural, magnetic and dielectric properties of SrM/PEEK: A potential microwave absorber, Ceramics International, 49(2023)7796-7805

Year 2022

84. A. Azam, Nawaz Muhammad, ***G. Murtaza***, Naveed Jafar , Thamraa Alshahrani, Mohammed A. Amin , Manal Morsi , H. H. Somaily , Q. Mahmood, First principle study of structural, electronic, magnetic, optical and thermal properties of chalcogenides XFeSe2 (X = Li, Na and K) half metallic compounds, Physica Scripta 97 (2022)125806
85. Saba Maqsood, ***G. Murtaza***, First-principle investigation of thermoelectric and optoelectronic properties of Rb2KScI6 and Cs2KScI6 double perovskite for solar cell devices, Journal of Materials Research and Technology 21 (2022)841-849
86. Ayesha Zia, ***G. Murtaza***, Khawar Ismail, R.M. Arif Khalil, Muhammad Iqbal Hussain, Ab-initio calculation of structural, electronic and optical response ofKXCl3 (X = Be, Ca and Sr) for Optoelectronic Devices, Computational Condensed Matter 33 (2022) e00737
87. M. Ashan Shafique, Zeshan Zaheer, ***G. Murtaza***, Bandgap engineering of NiO, and enhanced photocatalytic performance by Ca doping, Optik, 267, (2022) 169634
88. Samia Razzaq, Khawar Ismail, ***G. Murtaza***, Hafiz Hamid Raza, Theoretical Study of Half-Heusler CsXAs (X=Ca, Sr, and Ba) from First Principle Calculations, Journal of Superconductivity and Novel Magnetism 35 (2022) 3291–3299
89. Khawar Ismail, ***G. Murtaza***, Shaista Tahir, Ghazanfar Nazir, Nessrin A. Kattan, Hind Albalawi, Bakhtiar Ul Haq, Manal Morsi, Theoretical study of electronic, magnetic, optical and thermoelectric properties of $XMnO_2$ (X=Au, Ag, Cu) oxides by DFT, Journal of Solid State Chemistry 314 (2022) 123432
90. Sidra Younus, ***G. Murtaza***, Structural, dielectric, and magnetic properties of Pr–Cr co-doped $Pr_xBa_{1-x}Cr_yFe_{12-y}O19$ barium hexaferrites, Ceramics International 48 (2022) 31041-31053
91. Shafaq Arif, Sehrish Saleem, ***G. Murtaza***, Rana Ayub, Arshad Mahmood, M.S.Anward, Investigations of N^+-ion implanted polymethylmethacrylate for flexible electronics, Optical Materials, 129 (2022) 112521
92. Samia, ***G. Murtaza***, Ab-initio calculation of electronic, mechanical, optical and phonon properties of $ZrXH_3$(X=Co, Ni and Cu): A key towards potential hydrogen storage materials, International Journal of Modern Physics B (2022) 1-10
93. M. Umair, ***G. Murtaza***, Synthesis and Characterization of Al and Zr-dual-doped lithium cobalt oxide cathode for Li-ion batteries using a facile hydrothermal approach, Colloids and Surfaces A: Physicochemical and Engineering Aspects (2022)
94. A. Samad, ***G. Murtaza***, Efficient electrochemical performance of hydrothermally synthesized mixed transition metal oxide nanostructures, IONICS (2022)

Year 2021

95. Mohsin Ishfaq Piracha, ***G Murtaza***, M Imranullah and Shafqat Hussain, Reduced graphene oxide containing barium hexaferrite composites for high frequency microwave absorption, Bull. Mater. Sci 45 (2021) 1-8
96. S. Sharif, ***G. Murtaza***, Tailoring the multiferroic properties of $BiFeO_3$ by low energy ions implantation, Journal of Electroceramics (2021)1-18

97. G. Farid, ***G. Murtaza***, Structural, Magnetic and Dielectric properties of Sn-Doped BiFeO3; Experiment and DFT analysis, Journal of Superconductivity and Novel Magnetism 34 (2021) 2179-2188
98. Athar N. Akhtar, ***G. Murtaza***, M. Ahsan Shafique and Ahmed S. Haidyrah, Effect of Cu Ions Implantation on Structural, Electronic, Optical and Dielectric Properties of Polymethyl Methacrylate (PMMA), Polymers (**2021)**, 13, 973
99. A. Jamil, Nawaz Muhammad, ***G. Murtaza***, Muhammad Asif, Systematic Investigation of Magnetic, Optical and Transport Properties of RTX (R = Rare Earth, T=3d/4d and X = p-block, Elements) for Thermoelectric Applications, International Journal of Modern Physics B, 35 (2021) 2150212
100. Q. Mahmood, Umm-e-Hani, Tahani I. Al-Muhimeed, Abeer A. AlObaid, Baktiar Ul Haq, ***G. Murtaza***, Tahani H. Flemban**,** Hind Althib, Study of Optical and Thermoelectric Properties of ZYbI3 (Z = Rb, Cs) for Solar cells and renewable energy; Modelling by Density functional theory, *Journal of Physics and Chemistry of Solids,155 (2021)110117*
101. R.M. Arif Khalil, Muhammad Iqbal Hussain, Muhammad Imran, Fayyaz Hussain, Nyla Saeed, ***G. Murtaza***, Anwar Manzoor Rana and Chandreswar Mahata, First-Principles Simulation of Structural, Electronic and Optical Properties of Cerium Trisulfide (Ce_2S_3) Compound, Journal of Electronic Materials, 50 (2021)1637-1643
102. Sadia Sharif, ***G. Murtaza***, Effect of Y ions incorporation on structural, morphological and magnetic properties of Bi12xDyxFeO3 for ferromagnetic applications, Bulletin of Materials Science,44 (2021) 1-12
103. Khawar Ismail, Hind Albalawi, ***G. Murtaza***, Tahani I. Al-Muhimeed, Abeer A. AlObaid Q. Mahmood, Study of half metallic ferromagnetism, transport and mechanical properties of X0.9375Ti0.0625 Te (X = Ca, Sr, and Ba) alloys: for spintronics application, Physica Scripta, **96** (2021) 095802
104. Mohsin Ishfaq Piracha, ***G. Murtaza***, Mukhtar Ahmed, Ghulam Farid, M. Abdullah, S. Sharif, Structural, dielectric and magnetic manifestation in BaM/PEEK nanocomposite for X band shielding blocks, Ceramics International 40 (2021) 4551-4562
105. Muhammad Shahzad Yaseen, Jifeng Sun, ***G. Murtaza***, David S. Sholl, Hanjun Fang, First-principles study of electronic and optical properties of ternary compounds $AuBX_2$ (X = S, Se, Te) and AuMTe2 (M = Al, In, Ga), Solid State Sciences 111 (2021) 106508

Year 2020

106. Umm-e-Hani, ***G. Murtaza***, Hafiz Hamid Raza, Optoelectronic and thermal properties of cubic SiMO3 (M = Sn, Pb) oxides for device application: a first principle study, Optical and Quantum Electronics 52 (2020) 456

107. R. M. Arif Khalil, Muhammad Iqbal Hussain, Fayyaz Hussain, Anwar Manzoor Rana, ***G. Murtaza***, Muhammad Shakeel, Hafiz M. Asif Javed, Structural, vibrational, mechanical, and optoelectronic properties of $LiBH_4$ for hydrogen storage and optoelectronic devices: First-principles study, Int J Quantum Chem. 26 (2020) 444.

108. Hafiz Hamid Raza, ***G. Murtaza***, Umm-e-Hani, Nawaz Muhammad, Shahid M. Ramay, First-principle investigation of XSrH3 (X = K and Rb) perovskite-type hydrides for hydrogen storage, Int J Quantum Chem. 120 (2020) 26419

109. N. Yaqoob, ***G. Murtaza***, M. Waqas Iqbal, N.A. Noor, Asif Mahmood, Shahid M. Ramay, Waheed Al-Masry, Najib Y.A. Al-Garadi, Study of half metallic nature and transport properties of XMnSe2 (X = Ca, Sr and Ba) compounds via ab-initio calculations, J Matter. Res. Technol. 5(2020)10511–10519

110. M. Waqas Iqbal, Mumtaz Manzoor, Hira Ateeq, Sikander Azam, ***Ghulam Murtaza***, Sikandar Aftab, M.A. Kamran, Abdul Majid, Structural, electronic, optoelectronic and transport properties of $LuZnCuAs_2$ compound: First principle calculations under DFT, Physica B 596(2020)412351

111. Hafiza Vaneeza Hussain, Mateeb Ahmad, Muhammad Tamoor Ansar, Ghulam M. Mustafa, Saira Ishaq, Shahzad Naseem, ***Ghulam Murtaza***, Farah Kanwal, Shahid Atiq, Polymer based nickel ferrite as dielectric composite for energy storage applications, Synthetic Metals 268 (2020) 116507

112. Muhammad Iqbal Hussain, R. M. Arif Khalil, Fayyaz Hussain, A. Manzoor Rana**,** ***G. Murtaza***, M. Imran, Probing the Structural, Electronic, Mechanical Strength and Optical properties of Tantalum-based oxide perovskites ATaO3 (A = Rb, Fr) for Optoelectronic Applications: First-Principles Investigations, *Optik* (2020)

113. Q. Mahmood, M. Hassan, Eman Algrafy, Bakhtiar Ul Haq Nessrin A.Kattan, ***G. Murtaza***, A. Laref**,** Theoretical investigations of optoelectronic and thermoelectric properties of the XIn2O4 (X = Mg, Zn, Cd) spinel oxides**,** Journal of Physics and Chemistry of Solids (2020) 109481

114. R.M. Arif Khalil, Fayyaz Hussain, Muhammad Iqbal Hussain, Afshan Parveen, Muhammad Imran, ***G. Murtaza***, M. A.Sattar, Anwar Manzoor Rana, Sungjun Kim, The investigation of optoelectronic, magnetic and dynamical properties of Ce and Ti doped 2D blue phosphorene: A dispersion corrected DFT study, Journal of Alloys and Compounds 827 (2020) 154255

115. A. Wahab, B. Sabir, Nessrin A. Kattan, N. Yaqoob, Eman Algrafy, *G. Murtaza*, Q. Mahmood & Imran Jamil, Ab initio study of electronic, optical and thermoelectric character of intermetallic compounds XGa3 (X = Fe, Ru, Os) Optical and Quantum Electronics 52, (2020)219

116. Q. Mahmood, S. A. Rouf, E. Algrafy, ***G. Murtaza***, S. M. Ramay, A. Mahmood, First principle analysis of electronic, optical and thermoelectric characteristics of XBiO3 (X = Al, Ga, In) perovskites, Opto-Electronics Review 28 (2020) 8-14

117. Q. Mahmood, ***G. Murtaza***, G. Ali, M. Hassan, Eman Algrafy , M.S. Shahid , Nessrin A. Kattan, A. Laref, Probing the electronic structure and magnetism in Ni doped ZnTe: A DFT modeling and experiment, Journal of Alloys and Compounds 834 (2020) 155176

118. Muhammad Iqbal Hussain, R.M. Arif Khalil, Saima Boota, Fayyaz Hussain, Muhammad Imran, ***G. Murtaza***, Anwar Manzoor Rana, M.A. Sattar, The structural, electronic and dynamical investigations of $NdMn_2O_5$ and La_2CoMnO_6 for optoelectronic applications: A first principles study, Optik 204 (2020) 164165

119. Qaiser Abbas, ***G. Murtaza***, Nawaz Muhammad, Mohsin Ishfaq, H.M.T.Iqbal, Ali Asad, Ghulam Abbas Ashraf, Muhammad Zahir Iqbal, Structural, dielectric and magnetic properties of ($ZnFe_2O_4$/Polystyrene) nanocomposites synthesized by micro-emuslion technique, Ceramics International, 46(2020)5920-5928

120. B. Sabir, ***G. Murtaza***, R.M. Arif Khalil, Ab-initio prediction of structure stability, electromagnetic, optical and thermoelectric behaviour of orthorhombic

LaXO3 (X= Cr, Mn, Fe): For device application, Journal of Molecular Graphics and Modelling 94(2020)107482

121. Muhammad Shahzad Yaseen, ***G. Murtaza*** and G. Murtaza, Theoretical investigation of the structural stabilities, optoelectronic and thermoelectric properties of ternary alloys NaInY2 (Y = S, Se and Te) through modified Becke-Johnson exchange potential International Journal of Modern Physics B, 33(2020) 2050133 (14 pages)
122. S.S.A. Gillani, Riaz Ahmad, Islah-u-din, Muhammad Rizwan, M. Shakil, Muhammad Rafique, ***G. Murtaza***, H.B. Jin, First-principles investigation of structural, electronic, optical and thermal properties of Zinc doped SrTiO3, Optik - International Journal for Light and Electron Optics 201 (2020) 163481
123. Hafiz Muhammad Tahir, Fatima Saleem, Shaukat Ali, Qurat ul Ain, Amina Afazal, Muhammad Summer, Rabia Mushtaq, Muhammad Tariq Zahid, Iram Liaqat, ***G. Murtaza***, Synthesis of sericin-conjugated silver nanoparticles and their potential antimicrobial activity, J Basic Microbiol. (2020)1–10.

Year 2019

124. M.S. Yaseen, ***G. Murtaza***, Rana M. Arif Khalil, First principle study of structural, electronic, optical, and transport properties of ternary Compounds NaGaX2 (X= S, Se, and Te) in tetragonal chalcopyrite phase, Optical and Quantum Electronics (2019)
125. N. Yaqoob, B. Sabir, ***G. Murtaza***, Rana M Arif Khalil, Nawaz Muhammad, A. Laref, Structural, electronic, magnetic, optical and thermoelectric response of half-metallic $AMnTe_2$ (A = Li, Na, K): An ab-initio calculations, Physica B: Condensed Matter, 574 (2019) 311656
126. Rana. M. Arif Khalil, Fayyaz Hussain, Muhammad Imran, Anwar Manzoor Rana, ***G. Murtaza***, ab initio study of the exo-hydrogenated single wall carbon nanotubes, Physica B: Condensed Matter, 552 (2019) 124-129
127. Hafiz Hamid Raza, ***G. Murtaza***, Umm-e-Hani, Rana M.Arif Khalil, Optoelectronic and thermal properties of LiXH$_3$(X=Ba, Sr and Cs) for hydrogen storage materials: A first principle study, solid state communications (2019)
128. H.S. Ali, Ali S. Alghamdi, ***G. Murtaza***, H.S. Arif, Wasim Naeem, G. Farid, Sadia Sharif, Muhammad Gul Bahar Ashiq and Syeda Ammara Shabbir, Facile Microemulsion Synthesis of Vanadium-Doped ZnO Nanoparticles to Analyze the Compositional, Optical, and Electronic Properties, Materials 23(2019) 1-7
129. R.M. Arif Khalil, Fayyaz Hussain, Muhammad Imran, Umbreen Rasheed, Anwar Manzoor Rana, G. Murtaza, An ab initio study of spectroscopic and thermodynamic characteristics of MgH_2 and TiC systems, International Journal of Hydrogen Energy 44 (2019)6756-6762
130. Ghulam Abbas Ashraf, Lanting Zhang, Waseem Abbas, ***Ghulam Murtaza*****,** Magnetic and optical properties of Gd-Tl substituted M-type barium hexaferrites synthesized by co-precipitation technique, Current Applied Physics (2019)
131. Ghulam Abbas Ashraf, Lanting Zhang, Waseem Abbas, Muhammad Ajmal**,** ***Ghulam Murtaza***, Mukhtar Ahmad, Structural, Optical, Dielectric, and Magnetic Characteristics of Nd Ions Substituted $BaFe_{11}(Sn_{0.5}Mg_{0.5})xO_{19}$ M-Type Hexaferrite via Co-precipitation, Journal of Superconductivity and Novel Magnetism 43(2019)1-8

132. N. R. Khalid, M. Khalid Hussain, ***G. Murtaza***, M. Ikram, M. Ahmad, A. Hammad, A Novel Ag_2O/ Fe–TiO_2 Photocatalyst for CO_2 Conversion into Methane Under Visible Light, Journal of Inorganic and Organometallic Polymers and Materials (2019)1-9

133. B. Sabir, ***G. Murtaza***, R.M. Arif Khalil, Qasim Mahmood, First principle study of electronic, mechanical, optical and thermoelectric properties of CsMO3 (M =Ta, Nb) compounds for optoelectronic devices, Journal of Molecular Graphics and Modelling 86 (2019) 19-26

134. Q. Mahmood, M. Hassan, G. Murtaza, M. Sajjad, A. Laref, Bakhtiar Ul Haq, The Theoretical Investigation of Electronic, Magnetic, and Thermoelectric Behavior of LiZ2O4 (Z=Mn, Fe, Co, and Ni) by Modified Becke and Johnson Approach, Journal of Superconductivity and Novel Magnetism (2019) 32:1231–1239

135. Rana M. Arif Khalil, Fayyaz Hussain, Anwar Manzoor Rana, Muhammad Imran, ***G. Murtaza***, Comparative study of poly type 2H-MoS_2 and 3R-MoS_2 systems by employing DFT, Physica E: Low-dimensional Systems and Nanostructures 106 (2019)338-345

Year 2018

136. ***G. Murtaza***, S.M. Osama, Murtaza Saleem, Structural, optical and photocatalytic properties of Cd1-xS:Lax nanoparticles for opto-electronic applications, Applied Physics A: Materials Science & Processing 126 (2018)778

137. Ghulam Farid, Muhammad Saif, ***Ghulam Murtaza***, Atif Hussain, Muhammad Umair and Muhammad Abdullah Malik, Micro-emulsion method for the synthesis and characterization of La, Mn-doped Ba_3CO_2 $Fe_{24}O_{41}$ Z-type hexa-nanoferrites, Surface Review and Letters, 1950065 (2018)1-9

138. Ammara Sajawal, M. Ishfaq, ***G. Murtaza***, Iram Habib, Nawaz Muhammad, S. Sharif, Half metallic ferromagnetism in PrMnO3 orthorhombic stable phase: an experimental and theoretical investigation, Materials Research Express (2018)

139. Sadia Sharif, ***Ghulam Murtaza***, Turgut Meydan, Paul I. Williams, Jerome Cuenca ,Shaikh H. Hashimdeen, Fozia Shaheena , Riaz Ahmad, Structural, surface morphology, dielectric and magnetic properties of holmium doped BiFeO3 thin films prepared by pulsed laser deposition, Thin Solid Films 662 (2018) 83–89

140. Iram Habib, Ammara Sajawal, ***G. Murtaza***, M Ishfaq, Nawaz Muhammad, Ghulam Farid,Sadia Sharif, Majid Niaz Akhtar and Sehrish Salim, Effect of co-doping of Fe and Gd on the structural, morphological and dielectric properties of $LaMnO_3$ nanocrystallites using Sol-Gel technique, Materials Research Express 5 (2018) 075018

141. Ghulam Abbas Ashraf, Lanting Zhang, Waseem Abbas, ***G Murtaza***, Synthesis and characterizations of Al-Sm substituted Ba-Sr M-type hexagonal ferrite nanoparticles via sol-gel route, Ceramic International, (2018)

142. M.S. Yaseen, ***G. Murtaza***, Rana M. Arif Khalil, Ab-initio study of Li based chalcopyrite compounds LiGaX2 (X= S, Se, Te) in tetragonal symmetry: A class of future materials for optoelectronic applications, Current Applied Physics 18 (2018) 1113–1121

143. Ghulam Farid, ***Ghulam Murtaza***, M Umair, Nawaz Muhammad, Hafiz Shahab Arif, Hafiz Saad Ali and Mukhtar Ahmad, Effect of La-doping on the

structural, morphological and electrochemical properties of **$LiCoO_2$** nanoparticles using Sol-Gel technique, Materials Research Express 5(2018)055044

144. Faiza Anjum, Riaz Ahmad, Naveed Afzal, ***G Murtaza***, Characterization of InN films prepared using magnetron sputtering at variable power, Materials Letters 219 (2018) 23–28

145. Mian A Ali, Mahreen Akram; Khaliq Mahmood, Faizan U Haq, Naveed A Chishti, Asma Hayat, Muhammad A Khan; Shahbaz Ahmad, ***Ghulam Murtaza***, 3 MeV proton irradiation effects on surface, structural, field emission and electrical properties of brass, Nuclear Inst, and Methods in Physics Research B 423 (2018) 7–15

Year 2017

146. S. Hanif, M. Hassan, S. Riaz, S. Atiq, S.S. Hussain, S. Naseem, ***G. Murtaza,*** Structural, magnetic, dielectric and bonding properties of BiMnO3 grown by co-precipitation technique, Results in Physics 7 (2017) 3190–3195

147. Muhammad Ahsan Shafique, ***G. Murtaza***, Shahzad Saadat, Muhammad K H Uddin, Riaz Ahmad, Improved cell viability and hydroxyapatite growth on nitrogen ion-implanted surfaces, Radiation Effects and Defects in Solids, (2017)1-11

148. B. Sabir, ***G. Murtaza***, Q. Mahmood, R. Ahmad, K.C. Bhamu, First principles investigations of electronics, magnetic, and thermoelectric properties of rare earth based PrYO3(Y=Cr, V) perovskites, Current Applied Physics 17 (2017) 1539-1546

149. Hafiz Shahab Arif, ***G. Murtaza***, Hajira Hanif, H. Saad Ali, M. Yaseen, N.R. Khalid, Effect of La on structural and photocatalytic activity of SnO2 nanoparticles under UV irradiation, Journal of Environmental Chemical Engineering 5 (2017) 3844–3851

150. Hafiz Muhammad Tahir Farid, Ishtiaq Ahmad, Irshad Ali, Shahid M. Ramay, Asif Mahmood, ***G. Murtaza,*** Dielectric and impedance study of praseodymium substituted Mg-based spinel ferrites, Journal of Magnetism and Magnetic Materials 434 (2017) 143–150

151. M. Hassan, R. Irfan, S. Riaz, S. Naseem, S. S. Hussain, ***G. Murtaza***, Structural and morphological properties of $Zn_{1-x}Zr_xO$ with room-temperature ferromagnetism and fabricated by using the co-precipitation technique Journal of the Korean Physical Society, 70 (2017)460-464

152. Majid Niaz Akhtar, Muhammad Azhar Khan, Mukhtar Ahmad, M. S. Nazir, M. Imran, A. Ali, A. Sattar, ***G. Murtaza***, Evaluation of structural, morphological and magnetic properties of CuZnNi ($Cu_xZn_{0.5-x}Ni_{0.5}Fe_2O_4$) nanocrystalline ferrites for core, switching and MLCI's applications, Journal of Magnetism and Magnetic Materials 421 (2017)260–268

153. Muhammad Zahir Iqbal, Ghulam Hussain, Salma Siddique, Muhammad Waqas Iqbal, ***G. Murtaza***, Shahid Mahmood Ramay, Interlayer quality dependent graphene spin valve, Journal of Magnetism and Magnetic Materials 422(2017)322–327

Year 2016

154. B. Ishaq, ***G. Murtaza***, S. Sharif, M. Azhar Khan, Naeem Akhtar, I.G. Will, Murtaza Saleem, S.M. Ramay, Investigating the effect of Cd-Mn co-doped nano-sized BiFeO3 on its physical properties, Results in Physics 6 (2016) 675–682

155. Q. Mahmood, M. Hassan, M.A. Faridi, B. Sabir, ***G. Murtaza***, Asif Mahmood, The study of electronic, elastic, magnetic and optical response of $Zn_{1-x}Ti_xY$ (Y=S, Se) through mBJ potential, Current Applied Physics 16 (2016) 549-561

156. Muhammad Junaid, Muhammad Azhar Khan, F.Iqbal, ***G. Murtaza***, Majid Niaz Akhtar, Mukhtar Ahmad, Imran Shakir, Muhammad Farooq Warsi, Structural, spectral, dielectric and magnetic properties of Tb–Dy doped Li-Ni nano-ferrites synthesized via micro-emulsion route Journal of Magnetism and Magnetic Materials 419(2016)338–344

157. Abdul Majeed, Muhammad Azhar Khan, Faseeh ur Raheem, Altaf Hussain, F. Iqbal , ***Ghulam Murtaza***, Majid Niaz Akhtar, Imran Shakir, Muhammad Farooq Warsi, Structural elucidation and magnetic behavior evaluation of rare earth (La, Nd, Gd, Tb, Dy) doped BaCoNi-X hexagonal nano-sized ferrites, Journal of Magnetism and Magnetic Materials 408(2016)147–151

158. Muhammad Ahsan Shafique, ***G. Murtaza***, Shahzad Saadat, Zeeshan Zaheer, Muhammad Shahnawaz, Muhammad K. H. Uddin and Riaz Ahmad, Study of nickel ion release in simulated body fluid from C+-Implanted nickel titanium alloy, Surface Review and Letters, Vol. 23, No. 5 (2016) 1650045 (6 pages)

159. Muhammad Kashif Sharif, Muhammad Azhar Khan, Altaf Hussain, F. Iqbal, Imran Shakir, ***G. Murtaza***, Majid Niaz Akhtar, Mukhtar Ahmad, Muhammad Farooq Warsi, Synthesis and characterization of Zr and Mg doped BiFeO3 nanocrystalline multiferroics via micro emulsion route, *Journal of Alloys and Compounds (2016)*

160. Q. Mahmood, ***G. Murtaza***, R. Ahmad, T. Hussain , I.G.Will, First principle study of vanadium doped ZnS: structural, electronic, elastic, magnetic and optical properties using mBJ approximation, Current Applied Physics, 16(2016) 361-370

161. Majid Niaz Akhtar, Abu Bakar Sulong, Muhammad Azhar Khan, Mukhtar Ahmad, ***G. Murtaza,*** M.R.Raza, R.Raza, M. Saleem, M.Kashif, Structural and magnetic properties of yttrium iron garnet (YIG) and yttrium aluminum iron garnet (YAIG) nanoferrites prepared by microemulsion method, Journal of Magnetism and Magnetic Materials, 401(2016)425–431

Year 2015

162. Q. Mahmood, A. Javed, ***G. Murtaza***, S.M. Alay-e-Abbas, Study of the $Zn_{0.75}M_{0.25}Te$ (M=Fe, Co, Ni) diluted magnetic semiconductor system by first principles approach, Materials Chemistry and Physics, 162 (2015) 831-838

163. Muhammad Azhar Khana, M. Javid ur Rehmana , Khalid Mahmood, Irshad Ali, Majid Niaz Akhtar, ***G. Murtaza***, Imran Shakir, Muhammad Farooq Warsi, Impacts of Tb substitution at cobalt site on structural, morphological and magnetic properties of cobalt ferrites synthesized via double sintering method, Ceramics International 41 (2015) 2286–2293

164. Irshad Ali, M. U. Islam, Muhammad Naeem Ashiq, Imran Sadiq, M. Azhar khan, Nazia karamat, M. Ishaque, ***G. Murtaza***, Imran Shakir, and Zahoor Ahmad, Electrical Behavior of Tb-Mn Substituted Y-Type Hexa-ferrites for High-Frequency Applications, Journal of Electronic Materials, 44 (2015) 1054-1061

165. Muhammad Azhar Khan, Sawera Riaz , Irshad Ali , Majid Niaz Akhtar **, *G. Murtaza***, Mukhtar Ahmad , Imran Shakir , Muhammad Farooq Warsi, Structural and magnetic behavior evaluation of Mg–Tb ferrite/polypyrrole nanocomposites, Ceramics International 41 (2015) 651–656

Year 2014

166. ***G. Murtaza et al.,*** Structural and magnetic properties of Nd-Mn substituted Y-type hexaferrites synthesised by microemulsion method, Journal of Alloys and Compound, 602 (2014) 122–129

167. ***G. Murtaza et al.,*** Structural and magnetic studies on Zr doped ZnO diluted magnetic semiconductor, Current Applied Physics 14 (2014) 176-181

168. Irshad Ali, M.U.Islam, Muhammad Naeem Ashiq, M. Asif Iqbal, Hasan M. Khan, ***G. Murtaza***, Role of Grain boundaries in the conduction of EuNi substituted Y-tpye Hexaferrites, J. Magn. Magne. Mater, 362(2014)115–121

169. Muhammad Azhar Khan, Misbah ul Islam, M.Asif Iqbal, Mukhtar Ahmad, Muhammad F. Din, ***G. Murtaza***, Muhammad Farooq Warsi, Magnetic,ferromagnetic resonance and electrical transport study of $Ni_{1-x}Tb_xFe2O4$ spinel ferrites, Ceramics International, 40 (2014) 3571–3577

170. Muhammad F Din, M. T. Farid, Mukhtar Ahmad, ***G Murtaza***, Majid Niaz Akhtar, Ishtiaq ahmad, Muhammad Farooq Warsi, Influence of Cd substitution on structural, electrical and magnetic properties of M-type barium hexaferrites co-precipitated nanomaterials, Journal of alloys and compounds 584 (2014) 646–651

171. N.A. Noor, S. Ali, G. Murtaza, M. Sajjad, S.M. Alay-e-Abbas, A. Shaukat, Z.A. Alahmed, A.H. Reshak, Theoretical investigation of band gap and optical properties of $ZnO_{1-x}Te_x$ alloys (x = 0, 0.25, 0.5, 0.75 and 1) Computational Materials Science 93 (2014) 151–159

172. Muhammad Azhar Khan, Kamran Khan, Azhar Mahmood, Gulam Murtaza, Majid Niaz Akhtar, Irshad Ali, Muhammad Shahid, Imran Shakirg, Muhammad Farooq Warsib, Nanocrystalline $La_{1-x}Sr_xCo_{1-y}Fe_yO_3$ perovskites fabricated by the micro-emulsion route for high frequency response devices fabrications, Ceramics International, 40(2014)13211–13216

173. Majid Niaz Akhtar, Muhammad Azhar Khan, Mukhtar Ahmad, G.Murtaza, Rizwan Raza, S.F.Shaukat, M.H. Asif, Nadeem Nasir, Ghazanfar Abbas, M.S. Nazir,

M.R. Raza, $Y_3Fe_5O_{12}$ nanoparticulate garnet ferrites: Comprehensive study on the synthesis and characterization fabricated by various routes, Journal of Magnetism and Magnetic Materials 368 (2014)393–400

Year 2013

174. Mukhtar Ahmad, Qasim Ali, Ihsan Ali, Ishtiaq Ahmad, M. Azhar Khan, Majid Niaz
Akhtar, ***G. Murtaza,*** M.U. Rana, Effects of Sr-substitution on the structural and magnetic behavior of Ba-based Y-type hexagonal ferrites, *Journal of Alloys and Compounds 580 (2013) 23–28,*

Year 2012

175. ***G. Murtaza et al,*** Room temperature ferromagnetism in $Ga_{1-x}Ho_xN$ (x = 0.0 and 0.05) diluted magnetic semiconductor thin films, *Chinese Journal of Chemical Physics*, **25, 3** (2012) 313-317.

176. M.A. Iqbal, W. Tahir and ***G. Murtaza***, An investigation of the Diamagnetic Ti^{4+} effect on the structural and magnetic properties of $BaNi_2$ based W-type hexaferrites, Ceramics International 38 (2012) 3757–3762.

Year 2011

177. ***G. Murtaza*et al,*** Study of Sm-doped ZnO samples sintered in a nitrogen atmosphere and deposited on n- Si(100) by evaporation technique**,** *Journal of Magnetism and Magnetic Materials* **323** (2011) pp. 3239-3245.

178. ***G. Murtaza* et al,*** Influence of Rare earth doping (Ho^{3+}) on the Structural, microstructure and magnetic properties of ZnO bulk and thin film systems**,** *Chinese Journal of Chemical Physics*, **24** (2011) 353-357.

179. ***G. Murtaza* et al,*** Dielectric and Magnetic Behavior of $BaCd_{2-x}Sr_xFe_{16}O_{27}$ W-type Hexagonal Ferrites, J. *of Alloys and Compound*, 509 (2011)4793-4796

Year 2010

180. ***G. Murtaza* et al,*** Effect of Ho^{3+} substitutions on the structural and magnetic properties of $BaFe_{12}O_{19}$ hexaferrites, *J. of Alloys and Compound*, 495 (2010) 229-233.

Books Written

International

2024 Murtaza, G., and Ahmad Ayyaz. "Geospatial Modeling Approach and Characteristics Study of Graphene-Anchored Cu-Nanoferrites and Their Potential in Arsenic Containing Wastewater Treatment." Sustainable

Development Using Geospatial Techniques, John Wiley & Sons, (Eds.) (2024): 299-325.

National

Edition 2024 Physics **X** (English and Urdu), Punjab Textbook Board, Lahore, Pakistan.

Edition 2023 Physics **X** (English and Urdu), Punjab Textbook Board, Lahore, Pakistan.

Edition 2022 Physics **X** (English and Urdu), Punjab Textbook Board, Lahore, Pakistan.

Edition 2021 Physics **X** (English and Urdu), Punjab Textbook Board, Lahore, Pakistan.

Edition 2020 Physics **X** (English and Urdu), Punjab Textbook Board, Lahore, Pakistan.

Edition 2019 Physics **X** (English and Urdu), Punjab Textbook Board, Lahore, Pakistan.

Edition 2018 Physics **X** (English and Urdu), Punjab Textbook Board, Lahore, Pakistan.

Edition 2017 Physics **X** (English and Urdu), Punjab Textbook Board, Lahore, Pakistan.

Edition 2016 Physics **X** (English and Urdu), Punjab Textbook Board, Lahore, Pakistan.

Edition 2015 Physics **X** (English and Urdu), Punjab Textbook Board, Lahore, Pakistan.

Edition 2014 Physics **X** (English and Urdu), Punjab Textbook Board, Lahore, Pakistan.

Edition 2013 Physics **X** (English and Urdu), Punjab Textbook Board, Lahore, Pakistan.

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