

CURRICULUM VITAE

KHALID MAHMOOD, Ph.D

Assistant Professor (TTS)
Department of Physics
Government College University Faisalabad

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EDUCATION

- Ph.D 2014
The Islamia University of Bahawalpur
Role of intrinsic defects on the structural, optical and electrical properties of ZnO
- M.Phil Physics 2009
The Islamia University of Bahawalpur
Characterization of SiC layers grown on n-type Si by low pressure chemical vapor deposition
CGPA 3.37
- M.Sc Physics 2006
The Islamia University Bahawalpur
70%, 1st div
- B.Sc. Physics. Math A and B 2002
The Islamia University Bahawalpur
60%, 1st div

COMPUTERS SKILLS/TRAINING

Ms Office
Origin Pro

RESEARCH INTERESTS

- Thermoelectric properties of wide band gap semiconductors
- Structural and optical properties of wide band gap semiconductors
- Schottky contacts and interface properties of metal Schottky diodes
- Characterization of deep level defects in SiC, GaN, InGaN, ZnO and LEDs
- Synthesis and characterization of nano ferrites
- Bio-sensing applications of semiconductors
- Characterization of deep level defects in semiconductors

RESEARCH EXPERIENCE

- Tuning the properties of ZnO using high pressure conditions
- Graphene growth using CVD
- Investigation of structural, optical, electrical and thermoelectric properties of wide band gap semiconductors
- Clean room working experience
- Growth of Si-Ge nano-wires using thermal evaporation system
- Analysis of intrinsic and deep level defects in semiconductors
- N-type and p-type doping of ZnO using high pressure and high temperature conditions
- Characterization of spinel nano-ferrites
- Current-voltage and capacitance-voltage characteristics of Schottky diodes
- Worked as visiting researcher at University of California Los Angeles and University of North Carolina USA
- Worked in High pressure laboratory at Geology Department, UCLA, USA

TECHNICAL SKILLS

- Thermal evaporation system

- MOCVD
- I-V, C-V Measurements
- X-Ray Diffraction (XRD)
- High pressure Hydraulic system
- Scanning Electron Microscope (SEM)
- Photoluminescence Spectroscopy (PL)
- Deep Level Transient Spectroscopy (DLTS)
- Raman Spectroscopy
- Hall Measurements
- Seebeck Effect
- Thickness Measurements
- Fourier Transform Infrared Spectroscopy (FTIR)
- LCR Meter
- Pico Meter
- Photo-spectro Meter
- UV/Vis Spectroscopy
- Thickness measurements

TEACHING EXPERIENCE

- Assistant Professor, Department of Physics, GC University Faisalabad
Courses Taught (Techniques of Experimental Physics, Semiconductor Materials and Devices, Advanced Electronics, Mechanics II, Electronic laboratory course, Waves and Oscillations, Modern Physics)
- Lecturer (Physics), RYK college of Technology
2006-2009
Courses Taught (Applied Physics, Digital Electronics)
- Visiting Lecturer, The Islamia University of Bahawalpur Pakistan
2010-2011, 2013, 2014
Courses Taught (Advanced laboratory course, Bio Mechanics, Measurement and Evaluation)

ADMINISTRATIVE EXPERIENCE

1. Class coordinator, MS Physics Weekend, 2016- 2020
2. Member of technical committee of Physics Department, 2017-to date
3. Chairman, Purchase committee of HEC project
4. Member, Board of study committee, Department of Physics, GC University Faisalabad, 2018 to date
5. Editorial Board Member, Journal of Modern Polymer Chemistry and Materials
6. Head, Pakistan Vacuum Society Technical Committee on Thin Films

HONORS/AWARDS

1. International Distinguished Researcher Award
2. Research Productivity Award, 2106-17, Government College University Faisalabad
3. Outstanding Researcher Award, 2016-17, Government College University Faisalabad
4. Outstanding Researcher Award, 2017-18, Government College University Faisalabad
5. Research Productivity Award, 2106-17, Government College University Faisalabad
6. 2nd position in TTS ranking of Government College University, 2018
7. 1st position in TTS ranking of Government College University, 2019
8. HEC Approved supervisor
9. Top 2% researchers of the world declared by Stanford University, USA
10. Gold Medal awarded by GCUF for winning heavily funded project, 2022

GRANTS/PROJECTS

1. **P-I**, Growth and characterization of thermoelectric properties of nano ferrites, Worth Rs. **0.5 million**, Higher Education Commission of Pakistan
2. **P-I**, Grant for the upgradation and maintenance of research laboratory, Worth **0.4404 million**, Higher Education Commission of Pakistan
3. **P-I**, Rapid identification of Bacteria in rural communities of Pakistan by cloud storage, Worth **Rs. 22.85 million**, Pak-US Science & Technology Cooperation Program, Higher Education Commission of Pakistan
4. **Co P-I**, Fabrication of metal-semiconductor diodes by home developed thermal coating unit, Worth Rs. **1.727 million**, Pakistan Science Foundation

5. **Co P-I**, Synthesis and characterization of nano-ferrites for thermoelectric power generation, Worth Rs. **1.255 million**, Pakistan Science Foundation
6. Research grant under GCUF-Research Support Program, Worth Rs. **0.1 million**, Government College University Faisalabad
7. **Co P-I**, Fabrication of low cost and quality graded Schottky diodes by home developed thermal evaporation system, Worth Rs. **3.816 million**, Higher Education Commission of Pakistan,
8. **Co P-I**, The bifacial field effect passivation of dielectric AlO_x/SiN_x stacks in PERC solar cells for improved performance, Worth Rs. **100 million**, British High Commission
9. **Co-PI**, Rapid Identification of MDR TB bacteria using Nano-engineered hybrid Plasmonic platform, Worth Rs. 2.5 million, Abu Dhabi University, UAE

BOOKS/BOOK CHAPTERS

1. Modulation of ZnO properties, International Journal of Scientific and Engineering Research, 2017, ISSN 2229-5518
2. Thermoelectric Properties of ZnO, One Central Press UK, 2018, ISSN 978-1-910086-21-6
3. Characterization Techniques for Bionanocomposites, Bionanocomposites green synthesis and applications, Elsevier, 2020
4. Thermoelectric properties of Oxide Semiconductors, Solid state Physics, One central press UK

M.PHIL THESIS SUPERVISED

1. M. Anwar, Investigation of phase transformation from Zinc Phosphate to Zinc Oxide by thermal annealing, 2015, GC University Faisalabad
2. Faraz Murtaza, Effect of annealing on the thermoelectric properties of bulk ZnO, 2015, GC University Faisalabad
3. Rubina Kausar, Effect of growth parameters on the current-voltage characteristics of Au/ZnO Schottky diodes, 2016, GC University Faisalabad
4. Sanwal Abbasi, Characterization of AlCuO synthesized by the evaporation method, 2017, GC University Faisalabad
5. M. Hassan saif, Characterization of Zinc Germinate nano-wires by the thermal evaporation method, 2017, GC University Faisalabad
6. Sabir Hussain, Characterization of Zinc Nitride thin film grown by thermal evaporation, 2017, GC University Faisalabad
7. Faiz Fareed, Comparative study of thermoelectric properties of GaN and ZnO, 2017, AIOU, Islamabad
8. Shakir Hussain, Investigation of structural, electrical and thermoelectric properties of Ge-Se-In thin films, Allama Iqbal Open University, Islamabad
9. Savera Naz, Structural and electrical properties of Lanthanum doped Li-Ni ferrites, 2017, GCWU Faisalabad
10. Yousf Usman, Synthesis and characterization of AlZnO composite for thermoelectric power generation applications, GC University Faisalabad.
11. M. Ibrahim, Effect of annealing temperature on the structural, optical and thermoelectric properties of GdN thin films, 2019, GC University Faisalabad
12. Mahmood ul Hasan, Fabrication and characterization of Cu substituted Ni-Zn spinel ferrites, 2019, GC University Faisalabad
13. Zaheer Hassan Raja, Study of structural, optical and thermoelectric properties of Gd doped GaN thin films, 2018, GC University Faisalabad
14. Rana Wahid, Synthesis of Cu_xIn_{1-x}O thin films prepared by sol-gel spin coating technique for thermoelectric power generation, 2018, Allama Iqbal Open University, Islamabad
15. Nazim Ali, Growth of Zn₂GeO₄ nanostructures for thermoelectric power applications, 2019, GC University, Faisalabad
16. Maryam Javaid, Effect of oxygen flow rates on structural and thermoelectric properties of MgGeO grown by thermal evaporation method. 2019, GC University Faisalabad
17. Abdul Rehman, Characterization of Mg_{0.5}Ge_{0.5}O_{0.6} thin films grown by thermal evaporation technique for thermoelectric power generation, 2019, GC University Faisalabad
18. M. Nasir Khan, Effect of different annealing temperature on structural and thermoelectric properties of Al-doped ZnO nanoparticles, 2019, GC University Faisalabad
19. Ms. Saliha, Government College Women University Faisalabad

20. Shahid Imran, Effect of annealing temperature on thermoelectric properties of ZTO thin film grown by thermal evaporation, Government College University Faisalabad, 2019
21. Ayessha Dilbar, Effect of Pr substitution on the structural, electrical and optical properties of $\text{Zn}_{0.5}\text{Cd}_{0.25}\text{Cu}_{0.25}\text{Fe}_{2-x}\text{Pr}_x\text{O}_4$ ferrites, Government College University Faisalabad, 2019.
22. Mr. Noman Tahir, Study of structural and electrical properties of $\text{Co}_{0.5}\text{Zn}_{0.5-x}\text{Cd}_x\text{Fe}_{1.95}\text{Bi}_{0.05}\text{O}_4$ nano ferrites synthesized by sol gel auto combustion method, Government College University Faisalabad, 2019.
23. Najaf Abbas Khan, Effect of Sn concentration on electrical and thermoelectric properties of ZnO, Government College University Faisalabad, 2020
24. Nasreen Akhtar, Thermoelectric properties of composition dependent terfenol-D thin films, Government College University Faisalabad, 2020
25. Zainab Naseem, Effect of post annealing on thermoelectric properties of ZnMgO thin films grown by thermal evaporation, Government College University Faisalabad, 2020.
26. Tahira Jamal, Determination of antibacterial activities of nanometal oxide, University of Agriculture Faisalabad, 2020.
27. Kiran Munwar, Thin film of nanometal oxide as biosensor, University of Agriculture Faisalabad, 2020.
28. Role of Aluminum concentration on the structural and thermoelectric properties of ZnAlS alloy, 2020
29. Inaam Ullah

PH.D THESIS SUPERVISED

1. Rabab Zahra, Investigation of structural, optical and electrical properties of Oxide/Ge nanostructures, GC University Faisalabad, 2019
2. Ubaid Ur Rehman, Tailoring the thermoelectric properties of Sn-Zn-O thin films by post growth annealing method, Government College University Faisalabad, 2021.
3. Mr. Zagiam, Growth and characterization of copper nitride thin films by thermal evaporation, GC University Faisalabad, 2022
4. Hassnain Zaman, Synthesis and characterization of zinc nitride grown by thermal evaporation for thermoelectric applications, 2022
5. Israr ul Haq, Investigation of thermoelectric properties of $\text{Zn}_x\text{In}_{1-x}\text{O}$ thin films grown by thermal evaporation technique, GC University Faisalabad, 2022

PH.D THESIS UNDER SUPERVISION

1. Ms. Mamona
2. Mr. Abdul Rehman
3. Mr. Najaf Abbas

SCHOLARSHIPS/POST-DOC

1. Talent Scholarship at School level
2. Indigenous 5000 fellowship for Ph.D by Higher Education Commission of Pakistan, 2007
3. International Research Support Initiative Program for six month visit to UCLA, USA and UNCC, USA by Higher Education Commission of Pakistan, 2011
4. Post-doc Fellowship by Higher Education Commission of Pakistan, 2020

MEMBERSHIP

1. Pakistan Vacuum Society, Pakistan (Life time)
2. International Society of Thermoelectrics, Japan (2013-2014)
3. National Academy of Young Scientists, Pakistan (Life time)
4. Materials Research Society MRS, USA (2017-18)
5. Pakistan Physical Society, Pakistan (Life time)

COUNTRY VISITED

1. USA, 2011
2. China, 2011
3. Japan, 2013
4. Turkey, 2016

5. USA, 2017
6. South Korea, 2018

CONFERENCES/WORKSHOPS/TRAININGS ORGANIZED

1. 5th International Conference on Material Science and Nanotechnology, 2022, Khanaspur, Pakistan
2. 4th International Conference on Material Science and Nanotechnology, 2020, GC University Faisalabad
3. 3RD International Conference on Material Science and Nanotechnology, 2019, GC University Faisalabad
4. International symposium on modern trends in Physics, 2018, GC University Faisalabad
5. 2nd International Conference on Material Science and Nanotechnology, 2018, GC University Faisalabad
6. International Conference on Material Science and Nanotechnology, 2017, GC University Faisalabad
7. International Seminar on Solar Energy and Solar Cells in Pakistan, 2016, GC University Faisalabad
8. Two day workshop on Vacuum systems, 2016, GC University Faisalabad,
9. One day National Seminar on Nano-Materials for Optoelectronic Applications, 2015, GC University Faisalabad, Pakistan

CONFERENCES/WORKSHOPS/TRAININGS ATTENDED

1. **Participant**, National workshop on applied vacuum technologies, 2008, Pakistan Vacuum Society. Islamabad Pakistan
2. **Assistant Organizer**, International conference on semiconductor materials and nano-devices, 2008, The Islamia University of Bahawalpur Pakistan
3. **Participant**, International Bhorbhan conference on science and technology, 2009 National Center for Physics Islamabad Pakistan
4. **Poster Presentation**, “Effect of intrinsic defects on the structural, optical and electrical properties of MBE grown ZnO” International Nathiagalli Summer College on physics and contemporary needs, 2010, Nathiagalli Pakistan
5. **Participant**, Ni-Lab View Hand On Workshop, 2010, National University of Science and Technology Islamabad Pakistan
6. **Participant**, International symposium on vacuum science and technology, 2010, Pakistan Vacuum Society Islamabad Pakistan
7. **Poster Presentation**, “Growth and characterization of 3C-SiC layers on Si substrate by LPCVD” International Scientific Spring, 2010 National Center for Physics Islamabad, Pakistan
8. **Oral Talk**, “ZnO based research at Department of Physics, The Islamia University of Bahawalpur” International Nathiagalli summer college on Physics and contemporary needs, 2011, Nathiagalli Pakistan
9. **Assistant Organizer**, 2nd International conference on semiconductor materials & nano-devices, 2011, The Islamia University of Bahawalpur Pakistan
10. **Oral Talk**, “Role of Zn-interstitials defects on the ultraviolet emission from ZnO” ICNMA 2011, Shanghai China
11. Mini PL/Raman training, 2012 Photon Systems Covina, CA, USA
12. **Participant**, Workshop on Plasma Etching, 2012, University of California Los Angeles, USA
13. **Participant**, VASSCAA-6, 2012 Pakistan Vacuum Society Islamabad, Pakistan
14. **Participant**, International Conference on Applied Physics and Condensed Matter, 2012, BZU Multan Pakistan
15. **Assistant Organizer**, 3rd International Conference on Semiconductor Materials and Nano-Devices (ICSMAND-2013) 2013, The Islamia University of Bahawalpur Pakistan
16. **Poster Presentation** “Enhancement of Seebeck coefficient of MBE grown un-doped ZnO by thermal annealing” International Conference on Thermoelectrics (ICT-2013) 2013, Kobe Japan
17. **Oral Talk**, “Growth and characterization of SiC layers by molecular beam epitaxy” International Symposium on Advanced Materials (ISAM-2013) 2013, Institute of Space Science Islamabad Pakistan
18. **Oral Talk** “Effect of annealing temperature on the structural and optical properties of ZnS thin films” International Conference on Solid State Physics (ICSSP-2013) 2013, Punjab University Lahore Pakistan

19. **Assistant Organizer**, International Conference on Renewable Energy Sources (ICRES-2014) 2014, Bahawalpur, Pakistan
20. **Invited Speaker**, International workshop on tracking detectors in High Energy Physics, 2015, National Center for Physics, Islamabad Pakistan
21. **Participant**, International Nathiagalli summer college on Physics and contemporary needs, 2015, Islamabad, Pakistan
22. **Participant**, Workshop on Digital Library, 2015, Government College University Faisalabad.
23. **Organizer**, One day National Seminar on Nano-Materials for Optoelectronic Applications, 2015, Government College University Faisalabad, Pakistan
24. **Organizer**, Two Day Workshop on Vacuum Systems, 2016, GC University Faisalabad,
25. **Speaker**, International Advances in Physics & Material Science Exhibition and Congress, 2016, Istanbul, Turkey
26. **Participant**, Current Trends in Nano-Technology and Future Perspectives, 2016, Government College University Faisalabad
27. **Participant**, One-Day Workshop on Infrared Spectroscopy; Principle & Applications, 2016, Government College University Faisalabad.
28. **Co-Organizer**, 5th International Conference on Semiconducting Materials and Nano-Devices, 2017, IUB, Bahawalpur
29. **Speaker**, 2017 MRS Conference and Exhibit, Phoenix, USA
30. **Invited Speaker**, International Conference on Need Based Solar Applications, The University of Lahore, 2017
31. **Participant**, 6th International Conference on Semiconductor Materials and Nano-Devices, The Islamia University of Bahawalpur, Pakistan, 2018.
32. Raman Spectroscopy Training at Dongwoo Optron, 2018, South Korea
33. SEM Training at Emcrafts, 2018, South Korea
34. **Invited Speaker**, 1st International Conference on Materials Science and Nanotechnology, University of Balochistan Quetta, 2018.
35. **Participant**, 2nd International Conference on Nano-Materials Modeling and Simulation, AIU, Islamabad, 2019
36. **Speaker**, 7th International Conference on Semiconductor Materials and Nano-Devices-Oxide Semiconductors- KFUEIT, Rahim Yar Khan, 2019
37. **Participant**, 1st International Conference on Advances in Theoretical and Applied Physics, GC Women University, Faisalabad, 2019.
38. **Invited Speaker**, 5th International Conference on molding and simulation of materials, Allama Iqbal Open University Islamabad, 2020.
39. **Speaker**, 8th International Conference on Semiconductor Materials and Nano-devices, KFUEIT, Rahim Yar Khan, 2020.
40. **Invited Speaker**, iiScience International Conference 2020 Light Generation, Sensing and Energy Sources, Women University Multan, 2020
41. **Team member**, GIST U.S. - Pakistan Startup Training, USA Department of States, Global Innovation through Science and Technology Initiative (GIST), July 16 - August 14, 2020
42. **Participant**, Symposium on Nanotechnology Research in Pakistan, NIBGE, Faisalabad, 2020
43. **Invited Speaker**, International Conference on global challenges in energy and environment development, Women University, Multan, 2021
44. **Guest Speaker**, 9th International Conference on Semiconductor Materials and Nano-devices (9th ICSMAND): Health, Energy and Environment, KFUEIT, Rahim Yar Khan, 2021
45. **Invited Speaker**, 1st International Conference on Emerging Trends in Physics, The Islamia University of Bahawalpur, 2022
46. **Keynote Speaker**, Global brown bag series seminars, Abu Dhabi University, UAE, 2022.

PUBLICATIONS

1. M. Azhar Khan, Sohail Afzal, Shagufta Gulbadan, **Khalid Mahmood**, Ghulam Abbas Ashraf, Majid Niaz Akhtar, Investigation of structural, physical, spectral, photoluminescence, Raman and dielectric properties of $\text{Ba}_2\text{Co}_2\text{Gd}_x\text{Fe}_{28-x}\text{O}_{46}$ hexaferrites, *Ceramics International*, in press, **I.F 5.532**
2. A. Ashfaq, L.K. Smirani, M. Abboud, U. Rehman, M.M Fadhli, H.H. Hegazy, M.A. Hossain, A. Ali, **K. Mehmoed**, N. Amin, Enhancing the thermoelectric power factor of nanostructured SnO_2 via Bi substitution, *Ceramics International*, in press, **I.F 5.532**
3. Nighat Zahoor, Muhammad Azhar Khan, Ghulam Abbas Ashraf, Muhammad Junaid, Shagufta Gulbadan, **Khalid Mahmood**, Insight of terbium substitution on the structural, spectroscopic, and dielectric characteristics of the Ba–Mg–Fe–O system, *Ceramics International*, in press **I.F 5.532**
4. A. Ashfaq, Hareem Mufti, K. Javaid, **K. Mahmood***, Salma Ikram, A. Ali, N. Amin, M. Yasir Ali, S.Z Ilyas, Bilal Aslam, Eng. Arshad Ali Khan, S. Hussain, A new approach to enhance the thermoelectric performance of quaternary chalcogenides Copper Zinc Tin Sulfide thin films by varying Copper molar concentration, *Solid State Communications*, 360 (2023) 115046, **I.F 1.934**
5. Jolly Jacob, Kashif Javaid, Nasir Amin, Adnan Ali, **Khalid Mahmood***, Salma Ikram Muhammad Imran Arshad, Asad Munir, Mongi Amami, The influence of lanthanum concentration on microstructural and electrical properties of Mg–Cd–Bi ferrite nanoparticles, *Ceramics International*, 49 (2023) 1896, **I.F 5.532**
6. Ubaid ur Rehman, Khalid Mahmood, Muhammad Arshad Kamran, Rawaa M. Mohammed, H.H. Somaily, Arslan Ashfaq, Qeemat Gul, Adnan Ali, Muhammad Faisal Iqbal, Kashaf ulSahar, Enhanced thermoelectric power generation performance of mixed-phase FeS/FeS₂ nanostructures by controlling the reaction time duration, *Ceramics International*, 49 (2023) 512, **I.F 5.532**
7. Waqas Ahmad, Sofia Tahir, Adnan Ali, Khalid Mahmood, A novel approach to reduce both front and rear side power losses in PERC solar cells using different combinations of transparent metal oxides, *Ceramics International*, 49 (2023) 2821, **I.F 5.532**
8. Shagufta Gulbadan, Muhammad Azhar Khan, Ghulam Abbas Ashraf, **Khalid Mahmood**, Muhammad Shahid, M. Irfan, Abrar Ahmad, Insight of structural, dielectric and spectroscopic characteristics of $\text{Ba}_{0.6}\text{Sr}_{0.4-x}\text{YbxFe}_{12-y}\text{Co}_y\text{O}_{19}$ M-type hexaferrite, *Ceramics International*, in press, **I.F 5.532**
9. N. Abbas Khan, Maha Abdallah Alnuwaiser, Muhammad Rizwan Javed, Salma Ikram, A. Ali, M. Yasir Ali, Mongi Amami, M. Asif Nawaz, K. Javaid, M. Sharafat Hussain, **K. Mahmood***, Effect of Sn concentration on the structural, morphological and thermoelectric transport properties of zinc Stannates thin films, *Ceramics International*, 48 (2022) 35237, **I.F 5.532**
10. Muhammad Arshad, Muhammad Azhar Khan, Ghulam Abbas Ashraf, **Khalid Mahmood**, Muhammad Imran Arshad, Investigation of crystal structure, electrical and dielectric response of Zr^{4+} - Co^{2+} substituted Ba–Sr–Ni Y-type hexagonal ferrites synthesized by sol-gel route, *Ceramics International*, in press, **I.F 5.532**
11. Misbah Idrees, Muhammad Azhar Khan, Shagufta Gulbadan, **Khalid Mahmood**, Ghulam Abbas Ashraf, Majid Niaz Akhtar, Structural and dielectric properties of $\text{Sr}_4\text{Zn}_2\text{Fe}_{36}\text{O}_{60}$ U-type hexaferrites with optimized Gd contents and sintered by a two-step process, *Ceramics International*, 48 (2022) 27749, **I.F 5.532**
12. InaamUllah, F.F.Al-Harbi, Aqrab ul Ahmad, **K. Mahmood***, A. Ali, Salma Ikram, N. Amin, K. Javaid, Mongi Amami, M. Arif Sajjad, M. Yasir Ali, M. Sharafat Hussain, Growth and characterization of GeSnO thin films for thermoelectric power generation applications, *Chemical Physics Letters* 801 (2022) 139717, **I.F 2.719**
13. A.Rehman, A. Ali, Salma Ikram, Mongi Amami, K. Mahmood* Characterization of polycrystalline SnSe_2 thin films for thermoelectric applications grown by Single-Stage Horizontal Tube Furnace (SSHTF), *Optical Materials*, 133 (2022) 112797, **I.F 3.754**
14. Salma Ikram, A. Ali, N. Amin, Iqra Tabassam, Mongi Amami, K. Javaid, M. Yasir Ali, **K. Mahmood***, Aqrab ul Ahmad, Sajid Hussain Siyal, Effect of Al concentration on the structural and thermoelectric properties of ZnAlS alloy, *Inorganic Chemistry Communications*, 144 (2022) 109908, **I.F 3.428**
15. Maha Abdallah Alnuwaiser Kashif Javaid, Jolly Jacob, Maleeha Saleem, Lingyan Liang, Hongtao Cao, Mongi Amami, **K. Mahmood***, A. Ali, N. Amin, Salma Ikram, Annealing induced morphology evolution and phase transition in SnO_x thin films grown by e-beam evaporation method, *Inorganic Chemistry Communications*, 140 (2022) 109473, **I.F 3.428**
16. Hafiz T. Ali, A. Ashfaq, M. Sharafat Hussain, **K. Mahmood***, Mohammad Yusuf, Salma Ikram, A. Ali, N. Amin, K. Javaid, M. Yasir Ali, J. Jacob, M. Amami, Enhancing the thermoelectric properties of CZTS thin films grown on multi-crystalline Si substrate by controlling the sulfurization time duration, *Optoelectronics and Advanced Materials-Rapid Communication*, 16 (2022) 164, **I.F 0.587**
17. InaamUllah, Jolly Jacob, F.F.Al-Harbi, **K. Mahmood***, A. Ali, M. Tamseel, Salma Ikram, N. Amin, K. Javaid, Lamia Ben Farhat, S. Hussain, M. Yasir Ali, Investigating the potential of AgZnO thin film composites for waste heat recovery using Seebeck data, *Optical Materials*, 127 (2022) 112318, **I.F 3.754**

18. Ubaid ur Rehman, Jolly Jacob, F.F. Al-Harbi, A. Ashfaq, **K. Mahmood***, A. Ali, N. Amin, Mongi Amami, S. Hussain, K. Javaid, Salma Ikram, Kashaf ul Sahar, Modulation of thermoelectric power generation performance of ZnO nanostructures by controlling the Mn atoms concentration, *Ceramics International*, 48 (2022) 16183, **I.F. 5.532**
19. Arslan Ashfaq, SofiaTahir, Ubaid ur Rehman, Adnan Ali, **Khalid Mehmood**, Fareeha Ashfaq, Waqas Ahmad, Khushi Muhammad Khan, M. Haneef, H. M. Shammass Mushtaq, Nasir Amin, Rabia Saeed, Kainat shabbir, Enhanced thermoelectric properties of 2H-MoS₂ thin film by tuning post sulfurization temperature, *Ceramics International*, 48 (2022) 18944, **I.F 5.532**
20. M. Imran Arshad, M.S Hasan, Atta ur Rehman, Maria Akhtar, LeDuc Tung, N. Amin, **K. Mahmood**, A. Ali, T. Trooklwilaiwan, N. Thi Kim Thanh, Structural, optical, electrical, dielectric, molecular vibrational and magnetic properties of La³⁺ doped Mg-Cd-Cu ferrites prepared by Co-precipitation technique, *Ceramics International*, 48 (2022) 14246, **I.F 5.532**.
21. Arslan Ashfaq, Jolly Jacob, Mongi Amami, F.F.Al-Harbi, A. Ali, **K. Mahmood***, U. Rehman, N. Amin, S. Ikram, S. Tahir Akbar, S. Hussain, Effect of Al-doping on the thermoelectric properties of CZTS thin film grown by sol-gel method, *Solid State Sciences*, 345 (2022) 114701, **I.F 3.752**
22. Ubaid ur Rehman, **Khalid Mahmood**, Arsalan Ashfaq, Adnan Ali, Sofia Tahir, Salma Ikram, Abdul Rehman, Kashaf ul Sahar, Waqas Ahamd, Nasir Amin, Enhanced thermoelectric performance of hydrothermally synthesized CuFeS₂ nanostructures by controlling the Cu/Fe ratio, *Materials Chemistry and Physics*, 279 (2022) 125765, **I.F 4.778**
23. Salma Ikram, Jolly Jacob, F.F.Al-Harbi, **K. Mahmood***, A. Ali, N. Amin, Tariq Sikandar, Mongi Amami, S. Hussain, K. Javaid, Sulfurization temperature induced enhancement in thermoelectric properties of polycrystalline WS₂ nanomaterials, *Optical Materials*, 124 (2022) 112004, **I.F 3.754**
24. Wasim Tahir, Muhammad Azhar Khan, Shagufta Gulbadan, Abdul Majeed, **Khalid Mahmood**, Comprehensive study of structural, physical, and spectroscopic properties of Co-Ni substituted BaMg₂Fe₁₆O₂₇ W-type hexaferrites, *Journal of Taibah University for Science*, 15 (2022) 1196, **I.F 2.688**
25. M. Jamil, Mongi Amami, A. Ali, **K. Mahmood***, N. Amin, Numerical Modeling of AZTS as buffer layer in CZTS solar cells with back surface field for the improvement of cell performance, *Solar Energy*, 231 (2022) 41-46, **I.F 7.188**
26. Hafiz T. Ali, Mongi Amami, U. Rehman, **K. Mahmood***, Mohammad Yusuf, Salma Ikram, A. Ali, N. Amin, K. Javaid, M. Imran Arshad, Investigating the thermoelectric power generation performance of ZnCuO: A p-type mixed-metal oxide system, *Journal of Physics and Chemistry of Solids*, 163 (2022) 110535, **I.F 4.383**
27. Kashif Javaid, Maria Ashfaq, Maleeha Saleem, Nasir Amin, Adnan Ali, **Khalid Mahmood**, Salma Ikram, Adnan Khalil, Abdul Ghafar Wattoo, Amjad Islam, Meshal Alzaid, Hussein Alrobei, Lingyan Liang, Hongtao Cao, Structural and thermoelectric properties of nanostructured p-SnO thin films grown by e-beam evaporation method, *International Journal of Hydrogen Energy*, 47 (2022) 15547, **I.F 7.139**
28. Hafiz T. Ali, M. Ramzan, M Imran Arshad, Nicola A. Morley, M. Hassan Abbas, Mohammad Yusuf, Atta Ur Rehman, Khalid Mahmood, Adnan Ali, Nasir Amin, and M. Ajaz-un-Nabi, Tailoring the optical, and magnetic properties of La-BaM hexaferrites by Ni substitution, *Chinese Physics B*, 31 (2022) 027502 **I.F 1.652**
29. Inaam Ullah, M. Tamseel, M. Amami, Muhammad Rizwan Javaid, K. Javaid, **K. Mahmood***, Salma Ikram, A. Ali, N.Amin, M.Yasir Ali, M. Shujaat Hussain, M. Imran Arshad, Growth and characterization of Ag-Al₂O₃ composites thin films for thermoelectric power generation applications, *Ceramics International*, 48 (2022) 3647, **I.F 5.532**
30. Hafiz T Ali, Mongi Amami, Inaam Ullah, M. Tamseel, K. Javaid, **K. Mahmood***, Mohammad Yusuf, Salma Ikram, A. Ali, N. Amin' Growth and characterization of Ag-Al₂O₃ composites thin films for thermoelectric power generation applications, *Ceramics International*, 48 (2022) 3647, **I.F 5.532**
31. Tauseef Munawar, Faisal Mukhtar, Muhammad Shahid Nadeem, Sumaira Manzoor, Muhammad Naeem Ashiq, **Khalid Mahmood**, Sana Batool, Murtaza Hasan, Faisal Iqbal, Fabrication of Dual Z-scheme TiO₂-WO₃-CeO₂ heterostructured nanocomposite with enhanced photocatalysis, antibacterial, and electrochemical performance, *Journal of Alloys and Compounds*, 898 (2022) 162779, **I.F 6.371**
32. S. Ikram, Jolly Jacob, U. Rehman, **K. Mahmood***, Adnan Ali, A. Ashfaq, N. Amin, Khurram Mehboob, Yasir Ali, M. I Arshad, M.Ajaz un Nabi, Kashif Javaid, M. Shujaat Hussain, S.A Tahir, Growth of ZnSnO nano structures for thermopower applications by thermal evaporation with and without oxygen precursor, *Ceramics International*, 47 (2021) 13934, **I.F 5.532**
33. Hafiz T Ali, Jolly Jacob, Salma Ikram, Tariq Sikandar, **K. Mahmood***, Mohammad Yusuf, A. Ali, N. Amin, K. Javaid, Fouad A. Abolaba, Band gap tailoring of hydrothermally synthesized WS₂ nanoparticles by the sulfurization time duration, *Ceramics International*, 47 (2021) 25381 **I.F 5.532**

34. Salma Ikram, Hafiz T Ali, **K. Mahmood***, N. Amin, Role of nature of Rare Earth ions dopants on Structural, Spectral and Magnetic Properties in Spinel Ferrites, Journal of Superconductivity and novel magnetism, 34 (2021) 1745, **I.F 1.675**
35. M. InamUllah, Mongi Amami' **K. Mahmood***, Salma Ikram, A. Ali, N. Amin, K. Javaid, M. Yasir Ali, Optimizing the thermoelectric properties of thermally evaporated AgSnO₂ thin films by post growth annealing process, Inorganic Chemistry Communications, 134 (2021) 108994, **I.F 3.428**
36. Nasir Amin, Abdul Razaq, Atta Ur Rehman, Khalid Hussain, M. Ajaz Un Nabi, N. A. Morley, Mongi Amami, Aisha Bibi, Muhammad Imran Arshad, **Khalid Mahmood**, Muneeba Fatima, Maria Akhtar, Sofia Akbar, Alina Manzoor, Hafiz T. Ali, Mohammad Yusuf, Sana Amin, Transport Properties of Ce-Doped Cd Ferrites CdFe₂-xCe_xO₄, Journal of Superconductivity and novel magnetism, in press, **I.F 1.675**
37. Salma Ikram, Jolly Jacob, Khurram Mehboob, **K. Mahmood***, N. Amin, Nasreen Akhtar, Role of rare earth metal ions doping on structural, Electrical, magnetic and dielectric behavior of spinel ferrites: A comparative Study, Journal of Superconductivity and novel magnetism, 34 (2021) 1833, **I.F 1.675**
38. H. T Ali, M. Jamil, **K. Mahmood**, M. Yusuf, S. Ikram, A. Ali , N. Amin, K. Javaid, M.Y Ali, M.R. Nawaz, A simulation study of perovskite based solar cells using CZTS as HTM with different electron transporting materials, Journal of Ovonic Research, 17 (2021) 437, **I.F 0.892**
39. A. Ashfaq, A. Ali, K. Mahmood, U. Rehman, S. Tahir, N. Amin, W. Ahmad, R. N. Aslam, M. Arshad, K. Rasheed, Al doping induced high thermoelectric performance in Cu₂ZnSnS₄ nanoparticles synthesized by the hydrothermal method, Ceramics International, 47 (2021) 35356, **I.F. 5.532**
40. Salma Ikram, Jolly Jacob, Khurram Mehboob, **K. Mahmood***, N. Amin, Nasreen Akhtar, Tailoring of structural and magnetic properties of Sputter-deposited Terfenol-D thin films by optimizing the substrate temperature, Journal of Superconductivity and novel magnetism, 34 (2021) 1843, **I.F 1.675**
41. Salma Ikram, Jolly Jacob, Khurram Mehboob, **K. Mahmood***, M. Shahid Nawaz, N. Amin, Relationship of various structural parameters with magnetic behavior of stoichiometric Tb³⁺ and Dy³⁺ Co-substituted NiFe₂O₄ nanostructures, Journal of Superconductivity and novel magnetism, 34 (2021) 1753, **I.F 1.675**
42. Hafiz T. Ali, A. Mateen, Fouzia Ashraf, Muhammad Rizwan Javed, A. Ali, **K. Mahmood***, A. Zohaib, N. Amin, S. Ikram, Mohammad Yusuf, A new SERS substrate based on Zn₂GeO₄ nanostructures for the rapid identification of E.Coli and methylene blue, Ceramics International, 47 (2021) 27998 **I.F 5.532**
43. Enhancement in carrier separation of ZnO-Ho₂O₃-Sm₂O₃ hetrostructured nanocomposite with rGO and PANI supported direct dual Z-scheme for antimicrobial inactivation and sunlight driven photocatalysis, Advanced Powder Technology, 32 (2021) 3770, **I.F 4.969**
44. H. T. Ali, U. Rehman, **K. Mahmood***, M. Yusuf, S. Ikram, A. Ali, N. Amin, A. Ashfaq, Y. Ali, M. A. Sajjad, Influence of post annealing temperature on the thermoelectric properties of bulk ZnSnO, J. Ovonic Research, 17 (2021) 367, **I.F 0.892**
45. U. Rehman, M. Kanwal, K. Mahmood, A. Ashfaq, A. Ali, S. Tahir, Kashaf ul Sahar, M. Naeem, S. Hussain, Improving the thermoelectric properties of Zinc Tin Oxide thin films by varying post growth annealing duration, Ceramics International, 47 (2021) 32371, **I.F. 5.532**
46. Hafiz T Ali, Z. Tanveer, Muhammad Rizwan Javed, **K. Mahmood***, N. Amin, Salma Ikram, A. Ali, M. Rehan H Shah Gilani, M. Arif Sajjad, Mohammad Yusuf, A new approach for the growth of Copper nitrides thin films by thermal evaporation using nitrogen as source gas, Optik, 245 (2021) 167666 **I.F 2.84**
47. Hafz T. Ali, Jolly Jacob, M. Isram, **K. Mahmood**, Mohammad Yusuf, Khurram Mehboob, Salma Ikram, N. Amin, K. Javaid, Effect of Aluminum (Al) Concentration on the Thermoelectric Performance of Zinc Aluminum Selenium (ZnAlSe) Alloy, Journal of Superconductivity and novel magnetism, 34 (2021) 2199, **I.F 1.675**
48. Sara Yaseen, Abdul Ghafar Wattoo, Muhammad Hashim, Muhamaad Bilal Tahir, Raheel Ahmed Janjua, Samia Mushtaq, Naseeb Ahmed, K. Mahmood et al, Synthesis and characterization of Bi-doped antimony sulphide thin films for solar absorption applications, Physia B, 619 (2021) 413196, **I.F 2.988**
49. Saba Siraj, Sofia Tahir, Adnan Ali, Nasir Amin, **Khalid Mahmood**, Alina Manzoor, Assessing the impact of front grid metallization pattern on the performance of BSF silicon solar cell, Silicon, 13 (2021) 4237, **I.F 2.941**
50. Hafiz T. Ali, Jolly Jacob, Muneeba Khalid, **K. Mahmood***, Mohammad Yusuf, Khurram Mehboob, Salma Ikram, A. Ali, N. Amin, Ambreen Ashar, Optimizing the structural, morphological and thermoelectric properties of zinc oxide by the modulation of cobalt doping concentration, Journal of Alloys and Compounds, 871 (2021) 159564, **I.F 6.371**
51. Muhammad Junaid, Jolly Jacob, Mubashar Nadeem, Nadia Jabbar, Muhammad, Azhar Khan, Alina Manzoor, Adeel Hussain Chughtai, A. Ali, **K. Mahmood**, S. Hussain, Structural elucidation and dielectric behavior evaluation of Dy-Ni substituted manganese ferrites, Physica B, 602 (2021) 412494, **I.F 2.988**

52. A. Zohaib, A. Mateen, **K. Mahmood***, A. Ali, N. Amin, Investigating the potential of ZTO as an efficient and cheap SERS substrate for the identification of bacteria, *AIP advances*, 11 (2021) 075012, **I.F 1.579**
53. Asma Aslam, N.A. Morley, Nasir Amin, Muhammad Imran Arshad, Muhammad Ajaz un Nabi, Adnan Ali, **Khalid Mahmood**, Aisha Bibi, Faisal Iqbal, Sajad Hussain, Yasir Jamil, Study of structural, optical and electrical properties of La_{3+} -doped $\text{Mg}_{0.25}\text{Ni}_{0.15}\text{Cu}_{0.25}\text{Co}_{0.35}\text{Fe}_{2-x}\text{La}_x\text{O}_4$ spinel ferrites, *Physica B*, 602 (2021) 412565, **I.F 2.988**
54. Hafiz T. Ali, Jolly Jacob, H. Zaman, **K. Mahmood***, Mohammad Yusuf, Khurram Mehboob, Salma Ikram, A. Ali, N. Amin, K. Javaid, Successful growth of Zinc Nitride thin films by vacuum tube furnace using nitrogen as source gas, *Ceramics International*, 47 (2021) 18964, **I.F 5.532**
55. Tauseef Munawar, Muhammad Shahid Nadeem, Faisal Mukhtar, Adnan Azhar, Murtaza Hasan, **Khalid Mahmood**, Altaf Hussain, Adnan Ali, M.I.Arshad, Muhammad Ajaz un Nabi, Faisal Iqbal, Synthesis, characterization, and antibacterial study of novel $\text{Mg}_{0.9}\text{Cr}_{0.05}\text{M}_{0.05}\text{O}$ (M = Co, Ag, Ni) nanocrystals, *Physica B*, 602 (2021) 412555, **I.F 2.988**
56. Z. Tanveer, **K. Mahmood***, S. Ikram, A. Ali, N. Amin, Modulation of thermoelectric properties of thermally evaporated copper nitride thin films by optimizing the growth parameters, *Physica B*, 605 (2021) 412712, **I.F 2.346**
57. Israr ul Haq, Jolly Jacob, Khurram Mehboob, **K. Mahmood***, A. Ali, Nasir Amin, Salma Ikram, S. Hussain, Yuyi Feng, Fouzia Ashraf, Effect of annealing temperature on the thermoelectric properties of ZnInO thin films grown by physical vapor deposition, *Physica B*, 606 (2021) 412569, **I.F 2.988**
58. Asma Aslam, Abdul Razzaq, S. Naz, Nasir Amin, Muhammad Imran Arshad, M. Ajaz Un Nabi, Abid Nawaz, **Khalid Mahmood**, Aisha Bibi, Faisal Iqbal, M. Shakil, Zahid Farooq, Muhammad Zahir Iqbal, Syed Shabhi Haider, Atta ur Rehman, Impact of Lanthanum-Doping on the Physical and Electrical Properties of Cobalt Ferrites, *Journal of Superconductivity and Novel Magnetism*, in press, **I.F 1.675**
59. Yahya Muddassir, Sofa Tahir, Adnan Ali, Khalid Mahmood, Ubaid Ur Rehman, Arslan Ashfaq, Alina Manzoor, Salma Ikram, Morphology dependent thermoelectric properties of mixed phases of copper sulfide (Cu_{2-x}S) nanostructures synthesized by hydrothermal method, *Applied Physics A*, 127 (2021) 457, **I.F 2.584**
60. Jolly Jacob, U. Rehman, **K. Mahmood***, A. Ali, A. Ashfaq, Nasir Amin, Salma Ikram, Meshal Alzaid, Khurram Mehboob, Simultaneous enhancement of Seebeck coefficient and electrical conductivity in ZnSnO by the engineering of grain boundaries using post annealing, *Physics Letters A*, 388 (2021) 127034, **I.F 2.983**
61. A. Ashfaq, Jolly Jacob, **K. Mahmood***, Khurram Mehboob, Salma Ikram, A. Ali, N. Amin, Sajad Hussain, U. Rehman, Effect of sulfur amount during post-growth sulfurization process on the structural, morphological and thermoelectric properties of sol-gel grown quaternary chalcogenide $\text{Cu}_2\text{ZnSnS}_4$ thin films, *Physica B*, 602 (2021) 412497, **I.F 2.988**
62. A. Ali, Jolly Jacob, Khurram Mehboob, Sajad Hussain, Arslan Ashfaq, **K. Mahmood***, S. Ikram, N. Amin, U. Rehman, Sofia Akbar, Sajid Hussain Siyal, Correlation of thermoelectric properties of $\text{Cu}_2\text{ZnSnS}_4$ thin films grown by the chemical solution method with sulfur concentration, *Journal of Physics and Chemistry of Solids*, 148 (2021) 109677, **I.F 4.383**
63. Tauseef Munawar, Muhammad Shahid Nadeem, Faisal Mukhtar, Murtaza Hasan, **Khalid Mahmood**, M.I. Arshad, Altaf Hussain, Adnan Ali, Muhammad Saqib Saif, Faisal Iqbal, Rare earth metal co-doped $\text{Zn}_{0.9}\text{La}_{0.05}\text{M}_{0.05}\text{O}$ (M = Yb, Sm, Nd) nanocrystals; energy gap tailoring, structural, photocatalytic and antibacterial studies, *Journal of Materials Science in Semiconductor Processing*, 122 (2021) 105485, **I.F 4.644**
64. Jolly Jacob, Hafiz T Ali, A.Ali*, Khurram Mehboob, Arslan Ashfaq, Salma Ikram, U. Rehman, **K. Mahmood**, Nasir Amin, Improvement of thermoelectric properties of sol gel grown $\text{Cu}_2\text{Zn}_{1-x}\text{SnS}_4$ thin films with the incorporation of Cd atoms, *Journal of Materials Science in Semiconductor Processing*, 123 (2021) 105587, **I.F 4.644**
65. M. Ramzan, M. Imran Arshad, **Khalid Mahmood**, Nasir Amin, M. Isa Khan, Faisal Iqbal, M. Ajaz-un-Nabi, Investigation of Structural and Optical Properties of Pr^{3+} -Substituted M-Type Ba–Ni Nano-Ferrites, *Journal of Superconductivity and novel magnetism*, in press, **I.F 1.675**
66. M. Imran Arshad, S. Nadeem, N. Amin, **Khalid Mahmood**, M. Ramzan, S. Arshad, Aisha Bibi, M. Ajaz-un-Nabi, Tailoring the Structural and Electrical Properties of Ba–Zn–Co M-Type Hexaferrites by Lanthanum Substitution for High-Resistivity Applications, *Journal of Superconductivity and novel magnetism*, in press, **I.F 1.675**
67. M. Imran Arshad, Aqsa Akram, Khalid Hussain, Umaid-ur-Rehman, **Khalid Mahmood**, Faisal Iqbal, Nasir Amin, Sidra Arshad, Nadeem Sabir, M. Ajaz-un-Nabi, Investigation of Structural, Optical, and Dielectric Properties of $\text{Co}_{0.5}\text{Cd}_{0.5-x}\text{Cu}_x\text{Fe}_{1.95}\text{Ce}_{0.05}\text{O}_4$ Nanoferrites, *Journal of Superconductivity and novel magnetism*, in press, **I.F 1.675**

68. Muhammad Isa Khan, Noor Fatima, Muhammad Shakil, Muhammad Bilal Tahir, Khalid Nadeem Riaz, Muhammad Rafique, Tahir Iqbal, **Khalid Mahmood**, Investigation of in-vitro antibacterial and seed germination properties of green synthesized pure and nickel doped ZnO nanoparticles, *Physica B*, 601 (2021) 412563, **I.F 2.988**
69. Tariq Munir, Naeem ur Rehman, Arslan Mahmood, **Khalid Mahmood**, Adnan Ali, Imran Khan, Amjad Sohail, Alina Manzoor, Structural, optical, electrical and thermo-electrical properties of Cu doped Co₉S₈-NPs synthesized via co-precipitation method, *Chemical Physics Letters*, 761 (2020) 137989, **I.F 2.719**
70. Tauseef Munawar, Faisal Mukhtar, Muhammad Shahid Nadeem, Muhammad Riaz, Muhammad Naveed ur Rahman, **Khalid Mahmood**, Murtaza Hasan, M.I.Arshad, Fayyaz Hussain, Altaf Hussain, Faisal Iqbal, Novel photocatalyst and antibacterial agent; direct dual Z-scheme ZnO–CeO₂-Yb₂O₃ heterostructured nanocomposite, *Solid State Sciences*, 109 (2020) 106446, **I.F 3.752**
71. Abid Mahmood, Salaha Zulfiqar, Shaista Ali, Umme Ammara, **Khalid Mahmood**, Muhammad Akhyar Farrukh, Zohaib Saeed, Muhammad Ibrahim, Novel synthesis and characterization of Fe₂O₃-CuO-MoO₃ magnetic nanocomposite for photo-catalysis of methylene blue, *Journal of Superconductivity and novel Magnetism*, in press, **I.F 1.675**
72. Atta Ur Rehman, N.A. Morley, Nasir Amin, Muhammad ImranArshad, Muhammad Ajaz un Nabi, **Khalid Mahmood**, Adnan Ali, Asma Aslam, Aisha Bibi, Muhammad Zahir Iqbal, Faisal Iqbal, N.Bano, Meshal Alzaid, Controllable synthesis of La³⁺ doped ($x = 0.0, 0.0125, 0.025, 0.0375, 0.05$) nano-ferrites by sol-gel auto-combustion route, *Ceramics International*, 46 (2020) 29297, **I.F 5.532**
73. M. Imran Arshad, S. Arshad, **K. Mahmood**, Adnan Ali, N.Amin, Umaid-ur-Rehman, M. Isa, A. Akram, N. Sabir, M.Ajaz-Un-Nabi, Impact of Mg doping on structural, spectral and dielectric properties of Cd–Cu nano ferrites prepared via sol-gel auto combustion method, *Physica B*, 599 (2020) 412496, **I.F 2.988**
74. Hassnain Zaman, Jolly Jacob, Khurram Mehboob, **K. Mahmood***, U. Rehman, Salma Ikram, A. Ali, A. Ashfaq, N. Amin, Sajad Hussain, Z. Tanveer, Usman ul Ghani, Effect of annealing temperature on thermoelectric properties of Zinc Nitride thin films grown by thermal evaporation method, *Ceramics International*, 46 (2020) 25992, **I.F 5.532**
75. M. Ajaz Un Nabi, M. Moin, M. S. Hasan, M. I. Arshad, Aisha Bibi, N. Amin, **K. Mahmood**, S. S. Ali, Study of Electrical Transport Properties of Cadmium-Doped Zn–Mn Soft Ferrites by Co-precipitation Method, *Journal of Superconductivity and Novel Magnetism*, in press, **I.F 1.675**
76. Muhammad Junaid, Jolly Jacob, Mubashar Nadeem, Muhammad Azhar Khan, Skindar Hayat, Alina Manzoor, Sajjad Ahmad, Sara Musaddiq, Waseem Abbas, A. Ali, **K. Mahmood**, S. Hussain, Structural, Spectroscopic, Dielectric, and Magnetic Properties of Cu-Co–Co-substituted Manganese Soft Ferrites, *Journal of Superconductivity and Novel Magnetism*, 33 (2020) 3171, **I.F 1.675**
77. Salma Ikram, Jolly Jacob, Khurram Mehboob, **K. Mahmood***, A. Ashfaq, A. Ali, N. Amin, Sajad Hussain, U. Rehman, A novel approach to simultaneously enhance the Seebeck coefficient and electrical conductivity in Rutile phase of TiO₂ nanostructures, *Arabian Journal of Chemistry*, 13 (2020) 6724, **I.F 6.212**
78. Nasir Amin, Muhammad Sajjad Ul Hasan, Zahid Majeed, Zartashia Latif, Muhammad Ajaz un Nabi, **Khalid Mahmood**, Adnan Ali, Kiran Mahmood, Muneeb Fatima, Maria Akhtar, Muhammad Imran Arshad, Aisha Bibi, Muhammd Zahir Iqbal, Farukh Jabeene, N.Bano, Structural, electrical, optical and dielectric properties of yttrium substituted cadmium ferrites prepared by Co-Precipitation method, *Ceramics International*, 46 (2020) 20798, **I.F 5.532**
79. U. Rehman, Jolly Jacob, Abid Mahmood, **K. Mahmood***, A. Ali, A. Ashfaq, M. Basit, N. Amin, S. Ikram, S. Hussain, Modulation of secondary phases in hydrothermally grown Zinc Oxide nanostructures by varying the Cu dopant concentration for enhanced thermo power, *Journal of Alloys and Compounds*, 843 (2020) 156081, **I.F 6.371**
80. Tauseef Munawar, Faisal Mukhtar, Muhammad Shahid Nadeem, **Khalid Mahmood**, Altaf Hussain, Adnan Ali, M.I. Arshad, M. Ajaz un Nabi, Faisal Iqbal, Structural, optical, electrical, and morphological studies of rGO anchored direct dual-Z-scheme ZnO-Sm₂O₃-Y₂O₃ heterostructured nanocomposite: An efficient photocatalyst under sunlight, *Solid State Sciences*, 106 (2020) 106307, **I.F 3.752**
81. Tauseef Munawar, Faisal Mukhtar, Muhammad Shahid Nadeem M.Asghar, Khalid Mahmood, Altaf Hussain, M.I. Arshad, Muhammad Ajaz un Nabi, faisal Iqbal, Multifunctional properties of Zn_{0.9}Mn_{0.05}M_{0.05}O (M = Al, Bi, Sr, Ag) nanocrystals-structural and optical study: enhance sunlight driven photocatalytic activity, *Ceramics International*, 46 (2020) 22366, **I.F 5.532**
82. Tauseef, Munawar, Faisal Mukhtar, Muhammad Shahid Nadeem, Khalid Mahmood, Murtaza Hasan, Altaf Hussain, Adnan Ali, M.I.Arshad, Faisal Iqbal, Novel direct dual-Z-scheme ZnO-Er₂O₃-Nd₂O₃@reduced

- graphene oxide heterostructured nanocomposite: synthesis, characterization and superior antibacterial and photocatalytic activity, *Materials Chemistry and Physics*, 253 (2020) 123249, **I.F 4.778**
83. U. Rehman, Jolly Jacob, **K. Mahmood***, A. Ali, A. Ashfaq, M. Basit, N. Amin, S. Ikram, S. Hussain, Hadia Noor, Aqrab ul Ahmad, Naeem ur Rehman, Improving the thermoelectric performance of hydrothermally synthesized FeS₂ nanoparticles by post sulfurization, *Ceramics International*, 46 (2020) 20496, **I.F 5.532**
 84. A. Ali, Jolly Jacob, M. Imran Arshad, M. Ajaz un Nabi, Arslan Ashfaq, **K. Mahmood***, N. Amin, S. Ikram, U. Rehman, Sajad Hussain, Khurram Mehboob, Enhancement of thermoelectric properties of Sulphurized CZTS nano-crystals by the engineering of secondary phases, *Solid State Sciences*, 103 (2020) 106198, **I.F 3.752**
 85. Asif Iqbal, Jolly Jacob, Abid Mahmood, Khurram Mehboob, **K. Mahmood***, Adnan Ali, Tanveer Hussain Bukhari, M. Adrees, M. Ibrahim, M. Ahmad, Synthesis and characterization of Zn-Mn-Fe nano oxide composites for the degradation of reactive yellow 15 dye, *Physica B*, 588 (2020) 412210, **I.F 2.988**
 86. Tauseef Munawar, Sadaf Yasmeen, **Khalid Mahmood**, Altaf Hussain, Adnan Ali, M. I. Arshad, Faisal Iqbal, Novel tri-phase heterostructured ZnO-Yb₂O₃-Pr₂O₃ nanocomposite; structural, optical, photocatalytic and antibacterial studies, *Ceramics International*, 46 (2020) 11101, **I.F 5.532**
 87. Salma Ikram, Jolly Jacob, **K. Mahmood***, Khurram Mehboob, Mutaiba Maheen, A. Ali, N. Amin, Sajad Hussain, Fouzia Ashraf, S.Z. Ilyas, A Kinetic study of Tb³⁺ and Dy³⁺ co-substituted CoFe₂O₄ spinel ferrites using temperature dependent XRD, XPS and SQUID measurements, *Ceramics International*, 46 (2020) 15948, **I.F 5.532**
 88. M. Asghar, Tauseef Munawar, Sadaf Yaseen, Fayyaz Hussain, **Khalid Mahmood**, Altaf Hussain, Synthesis of noval hetrostructured ZnO-CdO-CuO nanocomposites: Characterization and enhanced sunlight driven photocatalytic activity, *Journal of Materials Chemistry and Physics*, 249 (2020) 122983, **I.F 4.778**
 89. Jolly Jacob, U. Rehman, **K. Mahmood***, A. Ali, Khurram Mehboob, A. Ashfaq, S. Ikram, N. Amin, S. Hussain, Fouzia Ashraf, Improved thermoelectric performance of Al and Sn doped ZnO nano particles by the engineering of secondary phases, *Ceramics International*, 46 (2020) 15013, **I.F 5.532**
 90. Tauseef Munawar, Sadaf Yasmeen, Faisal Mukhtar, Muhammad Shahid Nadeem, **Khalid Mahmood**, Muhammad Saqib Saif, Murtaza Hasan, Adnan Ali, Fayyaz Hussain, Faisal Iqbal, Zn_{0.9}Ce_{0.05}M_{0.05}O (M = Er, Y, V) nanocrystals: Structural and energy bandgap engineering of ZnO for enhancing photocatalytic and antibacterial activity, *Ceramics International*, 46 (2020) 14369, **I.F 5.532**
 91. K. Hussain, Aisha Bibi, F. Jabeen, Nasir Amin, **K. Mahmood**, Adnan Ali, M. Zahir Iqbal, M.I. Arshad, Study of structural, optical, electrical and magnetic properties of Cu²⁺doped Zn_{0.4}Co_{0.6-x}Ce_{0.1}Fe_{1.9}O₄ spinel ferrites, *Physica B*, 584 (2020) 412078, **I.F 2.988**
 92. N. Amin, M. Akhtar, M. Sabir, **K. Mahmood**, A. Ali, G. Mustafa, M. S. Hasan, A. Bibi, M. Z. Iqbal, F. Iqbal, A. Rehman, A. Aslam, K. Mehmood, Z. Latif, K. Hussain, Z.H. Nawaz, M. Fatimaa, S. Nadeem, M. Sharif, M. Jilania, A. Ghaffar, K. Javeed, R. Zakir, N. amin, M. I. Arshad, Synthesis, structural and optical properties of zn-substituted co w-ferrites by coprecipitation method, *J. Ovonic Research*, 16 (2020) 11-19, **I.F 0.8925**
 93. I. Ali, N. Amin, A. Rehman, M. Akhtar, M. Fatima, **K. Mahmood**, A. Ali, G. Mustafa, M. S. Hasan, A. Bibi, M. z. iqbal, f. iqbal, a. aslam, k. mehmood, z. latif, k. hussain, z. h. nawaz, s. sharif, m. jilani, u. danish, i. yaseen, a. Dilbar, N. Tahir, M. Bilal, A. Amin, M. I. Arshad, Electrical and magnetic properties of baco_xcd_{2-x}fe_{16-27x} w-type hexaferrites (0 ≤ x ≤ 0.5), *Digest Journal of Nanomaterials and Biostructures*, 15 (2020) 67-73, **I.F 0.899**
 94. Arslan Ashfaq, Jolly Jacob, A. Ali, Khurram Mehboob, **K. Mahmood***, U. Rehman, W. Ahmad, S. Ikram, N. Amin, Sofia Tahir, M. Imran Arshad, M. Ajaz un Nabi, Sajad Hussain, Designing of Seebeck coefficient and electrical conductivity in CZTS thin films for giant power factor, *Ceramics International*, 46 (2020) 9646, **I.F 5.532**
 95. U. Rehman, **K. Mahmood***, A. Ali, A. Ashfaq, A. Rehman, M. Ajaz un Nabi, M. Imran Arshad, N. Amin, S. Ikram, S. Hussain, Optimizing the electrical transport properties of ZnSnO thin films by post growth annealing in air, *Optik*, 204 (2020) 164148, **I.F 2.84**
 96. Muazma Jamil, A. Ali, **K. Mahmood***, M. Imran Arshad, M. Ajaz un Nabi, Salma Ikram, N. Amin, S. Hussain, Numerical simulation of Perovskite/Cu₂Zn(Sn_{1-x}Ge_x)S₄ interface to enhance the efficiency by valance band offset engineering, *Journal of Alloys and Compounds*, 821 (2020) 153221, **I.F 6.371**
 97. Tauseef Munawar, Faisal Iqbal, Sadaf Yasmeen, **Khalid Mahmood**, Altaf Hussain, Multi metal oxide NiO-CdO-ZnO nanocomposite–synthesis, structural, optical, electrical properties and enhanced sunlight driven photocatalytic activity, *Ceramics International*, 46 (2020) 2421, **I.F 5.532**
 98. Salma Ikram, Jolly Jacob, **K. Mahmood***, A. Ali, N. Amin, U. Rehman, M. Imran Arshad, M. Ajaz un Nabi, Kashif Javid, A. Ashfaq, M. Sharif, S. Hussain, Influence of Ce³⁺ substitution on the structural, electrical and magnetic Properties of Zn_{0.5}Mn_{0.43}Cd_{0.07}Fe₂O₄ spinel ferrites, *Physica B*, 580 (2020) 411764, **I.F 2.988**

99. K. Mahmood*, Jolly Jacob, M. Shakir, Syed Zafar Ilyas, U. Rehman, A. Ali, A. Ashfaq, Nasir Amin, S. Ikram, Nasir Ali, Modulation of thermoelectric properties of GeSeIn thin films by annealing in oxygen environment, *Physica B*, 572 (2019) 66, **I.F 2.988**
100. M. Ramzan, M. I. Arshad, N. Amin, **K. Mahmood**, A. Ali, M. Sharif, S. Ikrama, Y. Jamil, M. Ajaz-un-Nabi, Effect of La and Ce co-doping on structural, spectral and electrical properties of Ba-Ni-M-type hexaferrites, *Digest Journal of Nano-materials and Bio-structures*, 14 (2019) 849, **I.F 0.899**
101. **K. Mahmood***, Jolly Jacob, M. Ibrahim, A. Ali, N. Amin, S. Ikram, Modulation of structural, electrical, optical and thermoelectric properties of MOCVD grown GdN thin films by nitrogen environment annealing process, *Optik*, 206 (2020) 163435, **I.F 2.84**
102. Jolly Jacob, **K. Mahmood***, M. Yousf Usman, U. Rehman, A. Ali, A. Ashfaq, Nasir Amin, S. Ikram, S. Hussain, Modulation of thermoelectric properties of bulk ZnAlO by annealing in oxygen environment, *Physica B*, 572 (2019) 247, **I.F 2.988**
103. A. Ali, Jolly Jacob, Arslan Ashfaq, **K. Mahmood***, Salman Ahmad, U. Rehman, W. Ahmad, N. Amin, S. Ikram, S. Hussain, Nasir Ali, M. Azhar Khan, Effect of tin concentration on the structural, optical and thermoelectric properties of CZTS thin films grown by chemical solution method, *Ceramics International*, 45 (2019) 22513, **I.F 5.532**
104. Shahnaz Akbar, Jolly Jacob, **Khalid Mahmood***, M. F. Wasiq, Ghulam Hassnain Jaffari, Muhammad Azhar Khan, Analysis of Schottky emission electric charge transport mechanism in Cu-Lu₂O₃-Cu MIM structure by temperature dependent current-voltage characteristics, *Microelectronic Reliability*, 102 (2019) 113409, **I.F 1.418**
105. **K. Mahmood***, Jolly Jacob, A. Rehman, A. Ali, U. Rehman, N. Amin, S. Ikram, A. Ashfaq, S. Hussain, Modulation of thermoelectric properties of Mg₂GeO₄ thin films by controlling the growth process, *Ceramics International*, 45 (2019) 18701, **I.F 5.532**
106. U. Rehman, Jolly Jacob, **K. Mahmood***, A. Ali, A. Ashfaq, Nasir Amin, S. Ikram, W. Ahmad, S. Hussain, Direct growth of ZnSnO nano-wires by thermal evaporation technique for thermoelectric applications, *Physica B*, 570 (2019) 232, **I.F 2.988**
107. **K. Mahmood***, Jolly Jacob, R. Zahra, A. Ali, U. Rehman, A. Ashfaq, W. Ahmed, N. Amin, M.I. Arshad, Kashif Javaid, S. Ikram, M. Ajaz un Nabi, S. Hussain, Yuyi Feng, Thermoelectric properties of Zn₂GeO₄ nano-crystals grown on ITO and Au coated Si substrates by thermal evaporation, *Ceramics International*, 45 (2019) 18333, **I.F 5.532**
108. A. Rehman, Jolly Jacob, R. Zahra, **K. Mahmood***, A. Ali, U. Rehman, Yasir Ali, A. Ashfaq, W. Ahmed, S. Ikram, N. Amin, S. Hussain, Growth of Mg₂GeO₄ nano-crystals on Si substrate and modulation of Seebeck coefficient by post growth annealing technique, *Ceramics International*, 45 (2019) 16275, **I.F 5.532**
109. M. Sharif, Jolly Jacob, Muhammad Javed, Alina Manzoor, **Khalid Mahmood***, Muhammad Azhar Khan, Impact of Co and Mn substitution on structural and dielectric properties of lithium soft ferrites, *Physica B*, 567 (2019) 45-50, **I.F 2.988**
110. A. Ali, Jolly Jacob, Arslan Ashfaq, M. Tamseel, **K. Mahmood***, N. Amin, S. Hussain, W. Ahmad, U. Rehman, S. Ikram, Dheya Shjaa Al-Othmany, Modulation of structural, optical and thermoelectric properties of sol-gel grown CZTS thin films by controlling the concentration of Zinc, *Ceramics International*, 45 (2019) 12820-12824, **I.F 5.532**
111. M. Ramzan, M. Imran Arshad, M. Sharif, **Khalid Mahmood**, Adnan Ali, Nasir Amin, Na Lu, Sidra Arshad, Yasir Jamil, M. Ajaz-un-Nabi, Investigation of Electrical and Magnetic Properties of La³⁺ Substituted M-Type Ba-Ni Nano-Ferrites, *J. Superconductivity and novel magnetism*, 32 (2019) 3517-3524, **I.F 1.675**
112. Jolly Jacob, R. Wahid, A. Ali, R. Zahra, S. Ikram, N. Amin, A. Ashfa, U. Rehman, Sajad Hussain, Dheya Shjaa Al-Othmany, S. Zafar Ilyas, **K. Mahmood***, Growth of Cu₂InO₄ thin films on Si substrate by thermal evaporation technique and enhancement of thermoelectric properties by post-growth annealing, *Physica B*, 562 (2019) 59-62, **I.F 2.988**
113. **Khalid Mahmood***, Shahnaz Akbar, M. Ramzan, M. Farooq Wasiq, M. Azhar Khan, Growth and electrical characterization of Cr-Lu₂O₃-Cr MIM structure by electron beam evaporation, *Materials Research Express*, 6 (2019) 016405, **I.F 2.025**
114. Arslan Ashfaq, Jolly Jacob, N. Bano, M. Ajaz Un Nabi, A. Ali, W. Ahmad, **K. Mahmood***, M.I. Arshad, Salma Ikram, U. Rehman, N. Amin, S. Hussain, A two step technique to remove the secondary phases in CZTS thin films grown by sol-gel method, *Ceramics International*, 45 (2019) 10876, **I.F 5.532**
115. R. Zahra, Jolly Jacob, N. Bano, A. Ali, **K. Mahmood***, S. Ikram, M. I. Arshad, A. Ashfaq, U. Rehman, Sajad Hussain, Effect of secondary phases on the thermoelectric properties of Zn₂GeO₄ nano-crystals grown by thermal evaporation on Au coated Si substrate, *Physica B*, 564 (2019) 143-146, **I.F 2.988**

116. K. Hussain, N. Amin, M. Ajaz-Un-Nabi, A. Ali, **K. Mahmood**, G. Mustafa, M. Sharif, M. S. Hasan, N. Sabir, S. Ali, F. Jabeen, M. Asif, M. I. Arshad, Investigation of structural and electrical properties of Ce^{3+} ions substituted Cd-Co ferrites, Digest Journal of Nanomaterials and Biostructures, 14 (2019) 85, **I.F 0.899**
117. Arslan Ashfaq, J. Jacob, N. Bano, A. Ali, W. Ahmad, **K. Mahmood***, M. I. Arsha, S. Ikram, U. Rehman, S. Hussain, Tailoring the thermoelectric properties of sol-gel grown CZTS/ITO thin films by controlling the secondary phases, Physica B, 558 (2019) 86, **I.F 2.988**
118. N. Amin, M. I. Arshad, M. Ajaz-un-Nabi, **K. Mahmood**, M. Z. Iqbal, A. Ali, M. T. Wahla, M. Sharif, M. Asif, N. Sabar, S. Ikram, M. R. Ahmad, Z. Farooq, K. Hussain, A. Bibi, G. Mustaf, Effect of Cd^{2+} ions insertion on structural, optical and electrical properties of $\text{Zn}_{0.3}\text{Co}_{0.7-x}\text{Cd}_x\text{Fe}_2\text{O}_4$ ($0 \leq x \leq 0.7$) ferrites, Journal of Ovonic Research, 15 (2019) 27, **I.F 0.8925**
119. S. Hussain, Jolly Jacob, Z. Usman, **K. Mahmood**, A. Ali, M.I. Arshad, Waheed S. Khan, Z. Farooq, M.U. Farooq, A. Ashfaq, U. Rehman, Length dependent performance of $\text{Cu}_2\text{O}/\text{ZnO}$ nanorods solar cells, Supperlattices and microstructures, 126 (2019) 181, **I.F 2.658**
120. R. Zahra, **K. Mahmood***, U. Rehman, A. Ali, M. I. Arshad, N. Amin, S. Hussain, Mian H R Mahmood, Growth of Zn_2GeO_4 thin film by thermal evaporation on ITO substrate for thermoelectric power generation applications, Ceramics International, 45 (2019) 312, **I.F 5.532**
121. S. Hussain, Jolly Jacob, **K. Mahmood***, A. Ali, N. Amin, M. Isa, G. N. Wattoo, Mian H R Mahmood, Effect of growth temperature on Catalyst free hydrothermal Synthesis of crystalline SnO_2 micro-sheets, Ceramics International, 45 (2019) 4053, **I.F 5.532**
122. Salma Ikram, Jolly Jacob, M. Imran Arshad, **K. Mahmood***, A. Ali, N. Amin, N. Sabir, S. Hussain, Tailoring the Structural, Magnetic and Dielectric properties of $\text{Ni-Zn-CdFe}_2\text{O}_4$ spinel ferrites by the substitution of Lanthanum ions, Ceramics International, 45 (2019) 3563, **I.F 5.532**
123. A. Faraz, **K. Mahmood***, A. Ali, M. I. Arshad, M. Ajaz un Nabi, M. Akbar, N. Amin, S. Hussain, Enhancement of Al-N codopant solubility in ZnO by high temperature thermal annealing, Ceramics International, 45 (2019) 2948, **I.F 5.532**
124. Sajjad Hassan, M. Imran Arshad, Adnan Ali, **Khalid Mahmood**, Nasir Amin, Shahbaz Ali Khan, Ghulam Mustafa, Junaid Khan, Murtaza Saleem, Mg and La co-doped ZnNi Spinel Ferrites for low resistive applications, Materials Research Express, 6 (2019) 016302, **I.F 2.025**
125. M. A. Un Nabi, M. Sharif, G. Mustafa, A. Ali, K. Mahmood, N. Ali, N. Amin, M. R. Ahmad, N. Sabir, M. Asif, K. Hussain, M. S. Hasan, M. I. Arshad, Structural and thermoelectric power studies of Sm^{3+} -substituted Li-Ni -spinel ferrite, Digest Journal of Nanomaterials and Biostructures, 13 (2018) 1111, **I.F 0.899**
126. Salma Ikram, M. Imran Arshad, **Khalid Mahmood***, Adnan Ali, Nasir Amin, N. Ali Structural, magnetic and dielectric study of La^{3+} substituted $\text{Cu}_{0.8}\text{Cd}_{0.2}\text{Fe}_2\text{O}_4$ ferrite nanoparticles synthesized by the co-precipitation method, Journal of Alloys and Compounds, 769 (2018) 1019, **I.F 6.371**
127. **K. Mahmood***, S. Abbasi, R. Zahra, U. Rehman, Investigation of giant Seebeck coefficient in CuAlO_2 thin films grown on Si substrate by thermal evaporation, Ceramic International, 44 (2018) 17905, **I.F 5.532**
128. Sajad Hussain, Chuanbao Cao, Zahid Usman, Ghulam Nabi, Faheem K. Butt, **K. Mahmood**, A. Ali, M.I. Arshad, N. Amin, Effect of film morphology on the performance of Cu_2O PEC solar cells, Optik, 172 (2018) 72, **I.F 2.84**
129. **K. Mahmood***, Samaa BM, Influence of annealing treatment on structural, optical, electrical and thermoelectric properties of MBE grown ZnO , J. Exp. Theor. Phys., 126 (2018) 766, **I.F 1.111**
130. M. I. Arshad, S. Ikram, **K. Mahmood**, A. Ali, M. Ajaz un Nabi, N. Amin, Y. Arooj, N. Sawara, M. Asghar, M. Saleem, F. Jabeen, J. Batool, G. Mustafa, Effect of La^{3+} ions on nickel-cadmium spinel ferrites synthesized by co-precipitation method, Journal of Ovonic Research, 14 (2018) 217-34, **I.F 0.8925**
131. Shanza Akber, **Khalid Mahmood**, M.F. Wasiq, M.Y. Nadeem, M. Azhar Khan, Field and temperature dependent current-voltage characteristics of $\text{Al-Lu}_2\text{O}_3\text{-Al}$ metal-insulator-metal diodes, Physica B, 520 (2017) 112-115, **I.F 2.988**
132. M. I. Arshad, N. Amin, M. U. Isalm, A. Ali, **K. Mahmood**, M. Ejaz Un Nabi, M. S. Awan, H. Anwar, M. R. Saleem, G. Mustafa, Effects of Sr -substitution on the microstructure and magnetic behavior of m -type hexagonal ferrites synthesis by co-precipitation method, J. Ovonic Research, 13 (2017) 203-210, **I.F 0.8925**
133. Javaria Batool, Syed Muhammad Alay-e-Abbas, Adnan Ali, **Khalid Mahmood**, Shaheen Akhtar and Nasir Amin, The role of intrinsic vacancy defects in the electronic and magnetic properties of Sr_3SnO : a first-principles study, RSC Advances, 7 (2017) 6880, **I.F 4.05**
134. M. Ajaz un Nabi, **K. Mahmood**, M. I. Arshad, Adnan Ali, N. Amin, M. Asghar, Investigation of Si related deep acceptor level in as grown GaN by DLTS, J. Ovonic Research, 13 (2017) 7, **I.F 0.8925**

135. **K. Mahmood***, M.I Arshad, A. Ali, M. Ajaz un Nabi, N. Amin, S. Rabia, M. Azhar Khan, Investigation of optimal annealing temperature for enhanced thermoelectric properties of MOCVD grown ZnO, *Journal of Experimental and Theoretical Physics*, 124 (2017) 580, **I.F 1.111**
136. M.F Wasiq, **K. Mahmood**, M. Azhar Khan, M.Y Nadeem, M.F Warsi, Investigation of high temperature charge transport mechanism in Al-Gd₂O₃-Al based metal-insulator-metal (MIM) structure, *Applied Physics A*, 122 (2016) 1046, **I.F 2.983**
137. **K. Mahmood***, A. Ali, M.I Arshad, M. Ajaz un Nabi, N. Amin, M. Asghar, Synthesis of p-type ZnO from high temperature thermal annealing of bulk zinc phosphate, *J. Ovonic Research*, 12 (2016) 225, **I.F 0.8925**
138. N. Amin, M. Imran Arshad, M. U. Islam, A. Ali, **K. Mahmood**, G. Murtaza, M. Ahmad, G. Mustafa, Role of y³⁺ ions on the structural and dielectric properties of Ni-Zn-Cr ferrites synthesized by co-precipitation method, *Digest Journal of Nanomaterials and Biostructures*, 11 (2016) 579-590, **I.F 0.899**
139. M. Ajaz, **K. Mahmood**, N. Amin, A. Ali, M. Imran Arshad, S. Shifa, F. Iqbal, M. Asghar, Investigation of current transport properties of Ni Schottky diodes fabricated on MBE grown GaN on Silicon substrate, *Journal of Ovonic Research*, 12 (2016) 27-34, **I.F 0.8925**
140. **K. Mahmood***, N. Amin, A. Ali, M. Imran Arshad, M. Ajaz un Nabi, M. Asghar, Enhancement of phosphorus solubility in ZnO by thermal annealing, *Journal of Semiconductors*, 36 (2015) 123001
141. M.F Wasiq, M.Y Nadeem, **Khalid Mahmood**, M. Farooq Warsi, M. Azhar Khan, Impact of metal electrode on the charge transport properties of metal-Gd₂O₃ system, *J. Alloys and Compounds*, 648 (2015) 577-580, **I.F 6.371**
142. M. Zafar, M. Shakil, Shabir Ahmed, M. Arshad Ch, **K. Mahmood**, Theoretical investigation of sulfur defects on structural, electronic, and elastic properties of ZnSe Semiconductor, *Chinese Physics B* 24 (2015) 076106, **I.F 1.652**
143. **K. Mahmood**, M. Imran, M. Ajaz, Adnan Ali, M. Asghar, N. Amin, M-A Hasan, Enhancement of thermoelectric properties of MBE grown un-doped ZnO by thermal annealing, *Advances in Energy Research*, 3 (2015) 117.
144. **K. Mahmood**, M. Imran, M. Ajaz, Adnan Ali, M. Asghar, N. Amin, Investigation of double Gaussian distribution model of Au/free standing GaN Schottky contact grown by HVPE, *Journal of Ovonic Research* 11 (2015) 137, **I.F 0.8925**
145. **K. Mahmood**, M. Asghar, Adnan Ali, N. Amin, Investigation of phase transition from cubic ZnS to hexagonal ZnO by thermal annealing, *Journal of Semiconductors*. 36 (2015) 033001.
146. F. Malik, M. Asghar, **K. Mahmood**, R. Tsu, I. Ferguson, M-A Nawaz, M. F Warsi, Characterization of phosphors doped ZnO pellets grown by solid state reaction method, *J. Ovonic Research*, 11 (2015) 27, **I.F 0.8925**
147. M. Azhar Khan, Javaid ur Rehman, **Khalid Mahmood**, Irshad Ali, Majid Niaz Akhtar, Gjulam Murtaza, Iman Shakir, M. Farooq Warsi, Impacts of Tb substitution at cobalt site on structural, morphological and magnetic properties of cobalt ferrites synthesized via double sintering method, *Ceramic International*, 41 (2015) 2286, **I.F 5.532**
148. M. Asghar, **K. Mahmood**, M-A Hasan, I.T Ferguson, R. Tsu, M. Willander, Characterization of deep acceptor level in as grown ZnO thin films by molecular beam epitaxy, *Journal of Chinese Physics B*, 23 (2014) 097101, **I.F 1.652**
149. Maria Yousf Lodhi, **Khalid Mahmood**, Azhar Mahmood, Huma Malik, M. Farooq Warsi, Imran Shakir, M. Asghar, M. Azhar Khan, New Mg_{0.5}Co_xZn_{0.5-x}Fe₂O₄ nano-ferrites: structural elucidation and electromagnetic behavior evaluation, *Current Applied Physics* 14 (2014), 716-720, **I.F 2.856**
150. Huma Malik, Azhar Mahmood, **Khalid Mahmood**, Maria Yousf Lodhi, M. Farooq Warsi, Imran Shakir, Hasan Wahab, M. Asghar, M. Azhar Khan, Influence of cobalt substitution on the magnetic properties of zinc nanocrystals synthesized via micro-emulsion route, *Ceramic International*, 40 (2014) 9439, **I.F 5.532**
151. M. Azhar Khan, M. Sabir, Azhar Mahmood, M. Asghar, **K. Mahmood**, M. Afzal Khan, Iqbal Ahmed, Muhammad Sher, M. Farooq Warsi, High frequency dielectric response and magnetic studies of Zn_{1-x}Tb_xFe₂O₄ nanocrystalline ferrites synthesized via micro-emulsion technique, *J. Mag. Magnetic Mater.* <http://dx.doi.org/10.1016/j.jmmm.2014.02.059>, **I.F 3.097**
152. M. Asghar, **K. Mahmood**, R. Tsu, M Yasin Raja, I. Ferguson, Y-H Xie, M-A Hasan, Investigation of V_O-Zn_i native donor complex in MBE grown bulk ZnO thin film, *Journal of Semiconductor Science and Technology*, 28 (2013) 10509. **I.F 2.048**

CONFERENCE PROCEEDINGS

153. M. Asghar, **K. Mahmood**, K. Fatima, Analysis of HRTEM images of SiC epilayers, *Materials Today Proceeding*, 2 (2015) 5808-5814
154. M. Asghar, **K. Mahmood**, Samaa BM, S. Rabia, Effect of annealing temperature on the structural and optical properties of un-doped ZnO, *Materials Today Proceeding*, 2 (2015) 5572-5577

155. M. Asghar, **K. Mahmood**, Samaa BM, S. Rabia, Effect of annealing temperature on the structural and optical properties of un-doped and p-doped ZnS, *Materials Today Proceeding*, 2 (2015) 5430-5435
156. M. Asghar, **K. Mahmood**, A. Nawaz, Samaa BM, S Rabia, Enhancement of p-diffusion density in bulk ZnO for p-type conductivity, *Materials Today Proceeding*, 2 (2015) 5230-5235.
157. M. Asghar, **K. Mahmood**, M-A Hasan, R. Tsu, I. Ferguson, Response of V_O -Zn_i complex under hot annealing environments of oxygen and Zn, *AIP conference proceeding*, 1583 (2014) 355.
158. M. Asghar, **K. Mahmood**, F. Malik, Samaa BM, S. Rabia, M-A Hasan, Effect of Zn/O ratio on structural, optical and electrical properties of MBE grown ZnO, *Conference Series: Material Science and Engineering*, 60 (2014) 012027
159. M. Asghar, **K. Mahmood**, M. Asif Nawaz, R. Tsu, Growth and characterization of epilayers of SiC on Si (111) substrate using single solid source, *Conference Series: Material Science and Engineering*, 60 (2014) 012069
160. M. Asghar, **K. Mahmood**, Noor ul Ain, W. Sitapotra, R. Tsu Characterization of MBE grown diamond structure on Ti/Sapphire, *Conference Series: Material Science and Engineering*, 60 (2014) 012012
161. M. Asghar, **K. Mahmood**, Samaa BM, S. Rabia, M-Y Shahid, M-A Hasan, Investigation of temperature dependent barrier height of Au/ZnO/Si Schottky diodes, *Conference Series: Material Science and Engineering*, 60 (2014) 012041
162. M. Ajaz un Nabi, A. Ashfaq, M. Imran Arshad, A. Ali, **K. Mahmood**, M-A Hasan, M. Asghar, Ellipsometric study of GaN/AlN/Si(111) heterostructures grown by molecular beam epitaxy, *Conference Series: Material Science and Engineering*, 60 (2014) 012063
163. M. Asghar, **K. Mahmood**, M-A Hasan, Growth and interface properties of Au Schottky contact on ZnO grown by molecular beam epitaxy, *Journal of Physics: Conference Series*, 439 (2013) 012031.
164. M. Asghar, **K. Mahmood**, F. Malik, M-A Hasan, Electrical characterization of Au/ZnO/Si Schottky diodes, *Journal of Physics: Conference series*, 439 (2013) 012030.
165. F. Malik, M. Asghar, **K. Mahmood**, M. Willander, O. Nur, P. Kalson, Current-voltage and capacitance-voltage characteristics of Pd Schottky diodes fabricated on ZnO grown along Zn- and O-faces, *Applied Mechanics and Materials*, 313 (2013) 270.
166. M. Asghar, **K. Mahmood**, M. Yasin Raja, M-A Hasan, Growth and characterization of ZnO nanorods grown by molecular beam epitaxy, *Advance Materials Research*, 622-623 (2012) 919-924.
167. M. Asghar, **K. Mahmood**, A. Ali, M-A Hasan, Comparative study of temperature dependent barrier heights of Pd/ZnO Schottky diodes grown along Zn- and O-faces, *Key Eng. Mater.* 510-511 (2012) 265-270
168. M. Asghar, **K. Mahmood**, M-A Hasan, Effect of substrate temperature on the structural and electrical properties of MBE grown ZnO, *Key Engineering Materials*, 510-511 (2012) 132-136
169. M. Asghar, **K. Mahmood**, M-A Hasan, Investigation of source of n-type conductivity in bulk ZnO, *Key Engineering Materials*, 510-511 (2012) 227-232
170. M. Asghar, **K. Mahmood**, Adnan Ali, M-A Hasan, M. Willander, I. Hussan, Origin of ultraviolet luminescence from bulk ZnO thin films grown by molecular beam epitaxy, *Material engineering forum*, 1 (2011) 129.
171. M. Asghar, **K. Mahmood**, Adnan Ali, M-A Hasan, M. Willander, I. Hussan, Role of Zn-interstitials defects in the Ultraviolet emission from ZnO, *ECS transaction*, 35 (2011) 149-154

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REFERENCES

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