

Curriculum Vitae

Personal Information

Name: Mahmood-ul-Hassan
Mailing Address: Department of Physics, University of the Punjab, New Campus, Lahore, Pakistan
Email Address: mahmood.physics@pu.edu.pk
Date of Birth: 01-06-1979
Domicile: Jhang (Punjab)
Marital Status: married
Nationality: Pakistani

Educational Qualifications

Ph.D (Semiconductor Physics) 2011
Institute of Semiconductor and Solid State Physics, Johannes Kepler University, Linz, (Austria)

M.Phil (Solid State Physics) 2005
Centre of Excellence in Solid State Physics
University of the Punjab, Lahore. (Pakistan)

M.Sc (Physics) 2001
Govt College Jhang
University of the Punjab, Lahore. (Pakistan)

B.Sc (Physics, Chemistry, Mathematics) 1999
Govt College Jhang
University of the Punjab, Lahore. (Pakistan)

F.Sc (Pre-Eng) 1997
Govt College Jhang
Board of Intermediate and Secondary Education, Faisalabad. (Pakistan)

Matric (Science) 1995
Govt High School Wasu Astana Jhang
Board of Intermediate and Secondary Education, Faisalabad. (Pakistan)

Employment Record

- 1. Research Assistant** **June 2005 to 04 June 2007**
Centre of Excellence for Solid State Physics,
University of the Punjab, Lahore, Pakistan.
- 2. Lecturer** **05 June 2007 to 03 February 2008**
Department of Physics,
University of the Punjab, Lahore, Pakistan.
- 3. PhD student** **04 February 2008 to 09 June 2011**
**(HEC Overseas Scholarship under
Punjab University Faculty Development Program)**
Institute of Semiconductor and Solid State Physics,
Johannes Kepler University, Linz, Austria
- 4. Lecturer** **10 June 2011 to 10 August 2011**
Department of Physics,
University of the Punjab, Lahore, Pakistan.
- 5. Assistant Professor** **11 August 2011 to date**
Department of Physics,
University of the Punjab, Lahore, Pakistan.

Working Experience on Experimental Techniques

- 1. Molecular Beam Epitaxy (MBE)**
Growth of Diluted Magnetic Semiconductor, Growth Bi_2Te_3 as Topological Insulators. Growth of PbS quantum dots. Growth of superlattices, PbS quantum dot crystals. RHEED measurements for in-situ growth monitoring.
- 2. Seifert x-ray diffraction**
 ω - 2θ scans and Reciprocal Space Mapping of single crystalline thin film layers
- 3. Quantum Design SQUID magnetometer**
Field and Temperature Dependent Magnetization
- 4. Atomic Force Microscopy (AFM)**
Surface Morphology of Diluted Magnetic Semiconductors, Statistical analysis of PbS quantum dots
- 5. Hall effect Measurement System**
Transport properties of Diluted Magnetic Semiconductors and Topological Insulators
- 6. Other Techniques**
At Centre of Excellence for Solid State Physics at Punjab University, I have worked on Edward 306 Coating Unit for deposition of polycrystalline thin films. Also used Rigaku x-ray diffraction system, Hall measurement, UV-VIS Spectrophotometer, Optical Microscopy and Mass Spectrometer.

Research Interests: Fabrication and Characterization of Ferromagnetic Semiconductors, material simulations using Wein2K software.

Conference Presentations/Participations:

Presenter is underlined.

Oral Presentations:

1. Mahmood ul Hassan, Saira Riaz, Shahzad Naseem, “*Dependence of structural properties of CIGS thin films on reaction time at 250 °C, and 450 °C.*” Pakistan Institute of Physics (PIP) International Conference, March 2006, University of Engineering and Technology, Lahore. **Pakistan**
2. M. Hassan, R.T. Lechner, G. Springholz, H.Groiss, R.Kirchschlager and G. Bauer, “*Structural characterization of ferromagnetic $Ge_{1-x}Mn_xTe$ grown by molecular beam epitaxy*”, PIP (Pakistan Institute of Physics) International Conference 2009, 23rd-26th February 2009, University of Engineering and Technology (UET), Lahore. **Pakistan**
3. M. Hassan, G. Springholz, R. T. Lechner, H. Groiss, R. Kirchschlager, G. Bauer, “*Anisotropic Structure and Ferromagnetic Properties of Epitaxial $GeMnTe$* ”. 16th International conference on Molecular Beam Epitaxy (MBE), 22-27 August 2010, Berlin. **Germany**
4. R.T. Lechner, G. Springholz, M. Hassan, H. Groiss, R. Kirchschlager, J. Stangl, N. Hrauda, and G. Bauer, *Magnetic properties of epitaxial $GeMnTe$ determined by crystal structure*, European-Material Research Society (E-MRS) 2010 Fall Meeting, 13.-17.9.2010 in Warsaw. **Poland**
5. R.T. Lechner, G. Springholz, M. Hassan, H. Groiss, R. Kirchschlager, J. Stangl, N. Hrauda, and G. Bauer, *Magnetic Properties of Epitaxial $GeMnTe$ Determined by Crystal Structure*, 60. Jahrestagung der “Osterreichischen Physikalischen Gesellschaft” OPG 2010, 6.-10.9.2010 in Salzburg, **Austria**
6. R.T. Lechner, G. Springholz, M. Hassan, R. Kirchschlager, H. Groiss, J. Stangl, W. Heiss and G. Bauer, *Magnetic coupling in IV-VI semiconductor heterostructures based on ferromagnetic $Ge_{1-x}Mn_xTe$* , 14th International Conference on Narrow Gap Semiconductors and Systems (NGS-14), 13th - 17th July 2009, Sendai, **Japan**
7. H. Przybylińska, M. Hassan, G. Springholz, G. Bauer, W. Jantsch, *Magnetic field induced polarization reversal in $GeMnTe$* , International School and Conference on the Physics of Semiconductors June 8th – June 15th, 2012, Krynica-Zdroj. **Poland**
8. M. Hassan, G. Springholz, R. T. Lechner, R. Kirchschlager and G. Bauer “*Dependence of structural and ferromagnetic properties of epitaxial $GeMnTe$ thin film on Mn content*”, 6th Vacuum and Surface Sciences Conference of Asia and Australia, October 9-13 2012, Islamabad. **Pakistan**
9. M. Hassan, Gunther Springholz, “*Growth and Characterization of Epitaxial PbS Quantum Dots and Quantum Dot Crystals (QDC)*”, 13th International Symposium on Advanced Materials, 23 - 27 September 2013, Institute of Space Technology, Islamabad, **Pakistan**
10. M. Hassan, S. Riaz, and S. Naseem “*Growth and Characterization of Nickel doped Titanium dioxide*”, International Conference on Solid State Physics, December 01-06, 2013, Centre of Excellence for Solid State Physics, University of the Punjab, Lahore, **Pakistan (Invited Talk)**

11. Nooria Arooj, Mahmood ul Hassan, Shahid M. Ramay, Asif Mahmood and Abdul-Aziz N. Alhazaa, “Structural, electrical, morphological and photo-catalytic properties of $Ce_{1-x}Zr_xO_2$ synthesized by auto-combustion method” International Conference on Solid State Physics 2015 (ICSSP’15), Centre of Excellence in Solid State Physics, Univeristy of the Punjab, Lahore-**Pakistan**
12. Riffat Irfan, Mahmood ul Hassan, Ghulam Murtaza, Saira Riaz and Shahzad Naseem “Structural, ferromagnetic and surface morphological properties of $Zn_{1-x}Zr_xO$ fabricated by co-precipitation method” International Conference on Solid State Physics 2015 (ICSSP’15), Centre of Excellence in Solid State Physics, Univeristy of the Punjab, Lahore-**Pakistan**
13. Saima Younas, Mahmood ul Hassan, Saira Riaz and Shahzad Naseem, “Synthesis of single phase $Zn_{1-x}Mn_xS$ and study of structural, ferromagnetic and surface morphological characteristics” International Conference on Solid State Physics 2015 (ICSSP’15), Centre of Excellence in Solid State Physics, Univeristy of the Punjab, Lahore-**Pakistan**
14. Mahmood ul Hassan and Gunther Springholz, “N-type doping with Bi_2Te_3 in intrinsic p-type $Ge_{1-x}Mn_xTe$ epitaxial thin films”, International Conference on Solid State Physics 2015 (ICSSP’15), Centre of Excellence in Solid State Physics, Univeristy of the Punjab, Lahore-**Pakistan (Invited Talk)**

Poster Presentations:

1. M. Ul-Hassan, R.T. Lechner, G. Springholz, H. Groiss, R. Kirchschrager and G. Bauer, *Structural properties of ferromagnetic $Ge_{1-x}Mn_xTe$ grown by molecular beam epitaxy*, 9th Biennial Conference on High Resolution X-Ray Diffraction and Imaging (XTOP), 15.-19.9. 2008 in Linz. **Austria**
2. M. Hassan, R. Kirchschrager, R. T. Lechner, W. Heiss, G. Bauer, and G. Springholz, *Anisotropic structure and magnetotransport in ferromagnetic $Ge_{1-x}Mn_xTe$ epilayers*, 16th International Winterschool on New Developments in Solid State Physics: Low Dimensional Systems, 22.-26.2.2010, Mauterndorf. **Austria**.
3. R. Kirchschrager, G. Springholz, M. Hassan, R.T. Lechner, W. Heiss, G. Bauer, *Anisotropic magnetotransport properties in ferromagnetic $GeMnTe$* , 5th International School and Conference on Spintronics and Quantum Information Technology, 7-11 July 2009, Krakow. **Poland**
4. M. Hassan, S. Riaz, and S. Naseem “*Study of Bi-doped ZnO prepared by Sol-Gel method*”, International Conference on Solid State Physics, December 01-06, 2013, Centre of Excellence in Solid State Physics, University of the Punjab, Lahore. **Pakistan**
5. Awais Asif, Mahmood ul Hassan, Saira Riaz and Shahzad Naseem, “Effect of Zr substitution on structural, morphological, electrical and magnetic properties of $BiFeO_3$ ” International Conference on Solid State Physics 2015 (ICSSP’15), Centre of Excellence in Solid State Physics, University of the Punjab, Lahore-**Pakistan**
6. Bushra Parveen, Zeeshan Khalid, Fatima Aslam, Mahmood-ul-Hassan, Sair Riaz and Shahzad Naseem, “Morphological and structural characterization of Ni doped TiO_2 thin film with room temperature”, International Conference on Solid State Physics 2015 (ICSSP’15), Centre of Excellence in Solid State Physics, Univeristy of the Punjab, Lahore-**Pakistan**

7. Fatima Aslam, Umair, Bushra Parveen, Mahmood ul Hassan, Saira Riaz and Shahzad Naseem, “Structural and ferromagnetic study of $Zn_{1-x}Mn_xO$ with nano-rod like surface morphology”, International Conference on Solid State Physics 2015 (ICSSP’15), Centre of Excellence in Solid State Physics, University of the Punjab, Lahore-**Pakistan**
8. Sobia Hanif, Mahmood ul Hassan, Saira Riaz and Shahzad Naseem, “Structural, surface morphological, dielectric and magnetic properties of $BiMnO_3$ ” International Conference on Solid State Physics 2015 (ICSSP’15), Centre of Excellence in Solid State Physics, University of the Punjab, Lahore-**Pakistan**
9. Misbah Ghazanfer, Nooria Arooj, Mahmood ul Hassan, Saira Riaz and Shahzad Naseem, “Structural, magnetic and surface morphological studies of $Zn_{1-x}Fe_xS$ grown by co-precipitation method” International Conference on Solid State Physics 2015 (ICSSP’15), Centre of Excellence in Solid State Physics, University of the Punjab, Lahore-**Pakistan**
10. Abdullah Abid, Mahmood ul Hassan, Saira Riaz and Shahzad Naseem, “Temperature dependence of structural, morphological, electrical and magnetic properties of $BiFeO_3$ prepared by co-precipitation method” International Conference on Solid State Physics 2015 (ICSSP’15), Centre of Excellence in Solid State Physics, University of the Punjab, Lahore-**Pakistan**

Participations:

1. International Symposium on “*Nanomaterials – Potential Applications & Challenges*”, Department of Chemistry, LUMS, October 31, 2013, Lahore. **Pakistan**
2. “*Physics Colloquium*”, Physics Department, November 20, 2013, COMSATS Institute of Information Technology, Lahore. **Pakistan**

Theses Completed:

1. Epitaxial GeMnTe: Growth, Structural and Ferromagnetic Properties, [2011] (**PhD Thesis**)
Supervisor: Prof. Dr. Gunther Springholz, JKU, Linz, Austria
2. Dependence of Structural Properties of CIGS thin films on Reaction time at 250°C and 450°C, [2005] (**MPhil Thesis**)
Supervisor: Prof. Dr. Shahzad Naseem, CSSP, Lahore, Pakistan

Theses Supervised or currently under Supervision:

MSc Students:

1. **Umair** (2012-2014) (1221)
Mn doped ZnO fabricated by co-precipitation method
2. **Zeeshan Khalid** (2012-2014) (1211)
Fabrication and characterization of Ni doped TiO_2
[Publication: *Journal of Applied Research and Technology*, 15 (2017) 132-139]

MPhil Students:

3. **Muhammad Shahid** (2011-2013) (MP-1110)
Fabrication and Characterization of Transition metal doped ZnO
[Publication: *Current Applied Physics* 14 (2014) 176-181]

4. **Muhammad Rizwan** (2012-2014) (MP-1210)
Study of Yttrium doped ZnO prepared by Solid State Reaction Method
5. **Saima Younas** (2013-2015) (MP-1307)
Study of Mn Modified ZnS Crystals Fabricated by Co-precipitation Technique
[Publication: *Applied Physics A* 123 (2017) 352]
6. **Riffat Irfan** (2013-2015) (MP1306)
Characterization of Zr Modified ZnO Grown By Co-precipitations Method
[Publication: *Journal of the Korean Physical Society*, 70 (2017) 460-464]
7. **Nooria Arooj** (2014-2016) (MP-1402)
Characterization of Zr-substituted CeO₂ diluted magnetic semiconductors (DMS) fabricated by auto-combustion method
8. **Awais Asif** (2014-2016) (MP-1407)
Effect of Zr-substitution on structure, surface morphology and ferromagnetism in BiFeO₃ [Publication: *Chinese Physics B* 26 (2017) 087502]
9. **Abdullah Abid** (2014-2016) (MP-1408)
Temperature dependence of structural, surface morphological and magnetic properties in BiFeO₃ [Publication: *Journal of Superconductivity and Novel Magnetism*, 30 (2017) 2549-2554]
10. **Misbah Ghazanfar** (2014-2016) (MP-1411)
Structural, ferromagnetic and surface morphological modifications in Zn_{1-x}Fe_xS (x_{Fe} = 0.00-0.10) [Publication: *Surface Review and Letters* 25 (2017) 1850044]
11. **Sobia Hanif** (2014-2016) (MP-1420)
Structural, dielectric, surface and magnetic characterization of BiMnO₃ synthesized at various temperatures by co-precipitation method [Results in Physics 7 (2017) 3190-3195]
12. **Saliha Khalil** (2015-2017) (MP-1505)
First Principles Investigation of Cd_{0.9375}Mn_{0.625}X (X = S, Se, Te) Diluted Magnetic Semiconductors for Optical and Thermoelectric Applications.
13. **Suneela** (2015-2017) (MP-1506)
Conversion of Indirect to Direct Band Gap and Study of Optical and Thermoelectric Properties in XTaO₃ (X = Na, K): Under Pressure Study **(In-progress)**
14. **Syeda Amina Ali** (2015-2017) (MP-1507)
Analysis of Electronic, Magnetic, Optical and Thermoelectric Behaviors of XVO₃ (X = Ca, Sr, Ba) Perovskites Using mBJ Functional
15. **Nasreen Akhtar** (2015-2017) (MP-1508)
First Principles Study of Structural, Electronic, Optical and Thermoelectric Properties of Cd_{0.9375}Co_{0.625}X (X = S, Se, Te) Diluted Magnetic Semiconductors.
16. **Iqra Sabir** (2015-2017) (MP-1510)
Investigation of Structural, Electronic, Optical and Thermoelectric Characteristics of Transition Metal Doped CeO₂ Using Density Functional Theory
17. **Atiba Shahid** (2015-2017) (MP-1515)
Structural, Electronic, Optical and Thermoelectric Investigations of X₃SnO (X = Ca, Sr, Ba) Antiperovskites Using Density Functional Theory

18. **Madiha Liaqat** (2015-2017) (MP-1516)
Pressure Dependent Indirect to Direct Band Gap Transition and Study of Optical and Thermoelectric properties in RbTaO₃ Perovskite
19. **Iqra Arshad** (2015-2017) (MP-1517)
Computational Study of Electronic, Optical and Thermoelectric Properties of X₃PbO (X=Ca, Sr, Ba) Antiperovskites [Publication: *Semiconductor Science and Technology*, (2017) In Press]
20. **Mamoona Muazzam** (2015-2017) (MP-1520)
Computational Analysis of Electronic, Magnetic, Optical and Thermoelectric Properties of MgX₂O₄ (X = V, Fe) Spinels.
21. **Almas Ashraf** (2015-2017) (MP-1521)
Investigation Thermoelectric and Optical Response of Direct Band Gap Ca₃XO (X = Si, Ge) Antiperovskites Stabilized in Cubic and Orthorhombic Phases.
22. **Muhammad Ahsan Kareem** (2016-2018) (MP-1521)
(In-progress)
23. **Maryam Shafat** (2016-2018) (MP-1606)
(In-progress)
24. **Muhammad Aamir** (2016-2018) (MP-1607)
(In-progress)
25. **Shahid Kaleem** (2016-2018) (MP-1612)
(In-progress)
26. **Maham Rasheed** (2016-2018) (MP-1624)
(In-progress)
27. **Naseer Ahmad** (2016-2018) (MP-1625)
(In-progress)

PhD students:

28. **Bushra Parveen** (2014-2018) (PhD-1403)
Growth and Characterization of Transition Metal Doped Tin Based Diluted Magnetic Semiconductors. (In-progress)
29. **Faisal Iqbal** (2014-2018) (PhD-1410)
Synthesis and Characterization of Graphene Oxide Based Metallic Sulfides nanostructures for Supercapacitor Applications (In-progress)
30. **Fatima Aslam** (2015-2019) (PhD-1505)
(Course work completed) (In-progress)
31. **Nooria Arooj** (2016-2020) (PhD-1601)
(Engaged in Course work) (In-progress)
32. **Hajra Hanif** (2017-2021) (PhDSPE-1704)
(Engaged in Course work) (In-progress)

Teaching Activities:

I am teaching following courses

1. Solid State Physics, optional course (**B.Sc** honors 7th semester)
2. Solid State Physics, optional course (**M.Sc** part-II)
3. General Physics Laboratory I and General Physics Laboratory II (**B.Sc** 3rd semester)
4. Introduction to Magnetism and Magnetic Materials (**M.Phil** 2nd semester)

Research Fundings:

Punjab University Fundings

1. Study of transition-metal doped ZnO (2012) **Rs. 0.150 million**
2. Designing Electrodeposition Fabrication and Spectrophotometric Techniques for Metal oxides (2013) **Rs. 0.150 million**
3. Fabrication and Characterization of Ni doped TiO₂ (2014) **Rs. 0.150 million**
4. Growth and study of organic thin films to realize efficient Solar Cells (2015) **Rs. 0.150 million**
5. Growth and Characterization of Cubic ABO₃ type Perovskites (2016) **Rs. 0.150 million**
6. Growth and characterization of graphene-oxide based nano-composites of oxide semiconductors (2017) **Rs. 0.150 million (Recently awarded)**

Journal Publications: [Impact factor given according to 2017 JCR]

1. R.T. Lechner, G. Springholz, M. Hassan, H. Groiss, R. Kirchschlager, J. Stangl, N. Hrauda, G. Bauer, *Phase separation and exchange biasing in the ferromagnetic IV-VI semiconductor Ge_{1-x}Mn_xTe*, Appl. Phys. Lett. **97** (2010) 023101 [IF = 3.411]
2. M. Hassan, G. Springholz, R. T. Lechner, H. Groiss, R. Kirchschlager, G. Bauer, *Molecular beam epitaxy of single phase GeMnTe with high ferromagnetic transition temperature*, Journal of Crystal Growth **323** (2011) 363-367 [IF = 1.751]
3. A. Hochreiner, S. Kriechbaumer, T. Schwarzl, H. Groiss, M. Hassan, G. Springholz *Tuning of mid-infrared emission of ternary PbSrTe/CdTe quantum dots*, Appl. Phys. Lett. **100** (2012) 113112 [IF = 3.411]
4. O. Caha, A. Dubroka, J. Humlíček, V. Holý, H. Steiner, M. Ul-Hassan, J. Sánchez-Barriga, O. Rader, T. N. Stanislavchuk, A. A. Sirenko, G. Bauer, and G. Springholz, *Growth, Structure, and Electronic Properties of Epitaxial Bismuth Telluride Topological Insulator Films on BaF₂ (111) Substrates*, Cryst. Growth & Des. **13** (2013) 3365-3373 [IF = 4.055]
5. H. Przybylińska, G. Springholz, R. T. Lechner, M. Hassan, M. Wegscheider, W. Jantsch, and G. Bauer, *Magnetic-Field-Induced Ferroelectric Polarization Reversal in the Multiferroic Ge_{1-x}Mn_xTe Semiconductor*, Phys. Rev. Lett. **112** (2014) 047202 [IF = 8.462]
6. G. Murtaza, R. Ahmad, M.S. Rashid, M. Hassan, A. Hussnain, Muhammad Azhar Khan, M. Ehsan ul Haq, M. A. Shafique, S. Riaz, *Structural and magnetic studies on Zr doped ZnO diluted magnetic semiconductor*, Current Applied Physics **14** (2014) 176-181 [IF = 1.971]
7. M. Hassan, S. Riaz, S. Naseem, *Modification in structural and magnetic properties of pure ZnO realized by Bi addition*, Materials Today: Proceedings 2 (2015) 5596-5600 [IF = NA]

8. M. Hassan, S. Riaz, S. Naseem, *Room temperature ferromagnetism and nickel addition effects in titanium dioxide*, Materials Today: Proceedings 2 (2015) 5251-5255 [IF = NA]
9. Q. Mahmood, M. Hassan, and N. A. Noor, *Theoretical Study of Electronic, Magnetic, and Optical Response of Fe-doped ZnS: First-Principle Approach*. Journal of Superconductivity and Novel Magnetism, 30 (2016) 1463-1471 [IF = 1.180]
10. Q. Mahmood, M. Hassan and N A Noor, *Systematic study of room-temperature ferromagnetism and the optical response of $Zn_{1-x}TM_xS/Se$ ($TM = Mn, Fe, Co, Ni$) ferromagnets: first-principle approach*, J. Phys.: Condens. Matter 28 (2016) 506001 [IF = 2.649]
11. M. Hassan, N.A. Noor, Q. Mahmood, B. Amin, *Investigation of ferromagnetic semiconducting and opto-electronic properties of $Zn_{1-x}Mn_xS$ ($0 \leq x \leq 1$) alloys: A DFT-mBJ approach*, Current Applied Physics 16 (2016) 1473-1483 [IF = 1.971]
12. Q. Mahmood, S. M. Alay-e-Abbas, M. Hassan, N. A. Noor, *First-principles evaluation of Co-doped ZnS and ZnSe ferromagnetic semiconductors*, Journal of Alloys and Compounds 688 (2016) 899-907 [IF = 3.133]
13. A. Abid, M. Hassan S.S. Hussain , S. Riaz, S. Naseem, *Temperature dependent phase formation, surface morphological and magnetic studies of bismuth iron oxide grown by co-precipitation method*, Journal of Superconductivity and Novel Magnetism, 30 (2017) 2549-2554 [IF = 1.180]
14. N. A. Noor, S. M. Alay-e-Abbas, M. Hassan, I. Mahmood, Z. A. Alahmed, A. H. Reshak, *The under-pressure behaviour of mechanical, electronic and optical properties of calcium titanate and its ground state thermoelectric response*. Philosophical Magazine 97 (2017) 1884-1901 [IF = 1.505]
15. B. Parveen, M. Hassan, S. Atiq, S. Riaz, S. Naseem and M. Asif Toseef, *Structural and dielectric study of nano-crystalline single phase $Sn_{1-x}Ni_xS$ ($x_{Ni} = 0-10\%$) showing room temperature ferromagnetism*, Progress in Natural Sciences: Materials International, 27 (2017) 303-310 [IF = 2.038]
16. M. Hassan, M. Ghazanfar, N. Arooj, S. Riaz, S. Sajjad Hussain, S. Naseem, *Structural, surface morphological and magnetic studies of $Zn_{1-x}Fe_xS$ ($x = 0.00-0.10$) diluted magnetic semiconductors grown by co-precipitation method*. Surface Review and Letters 25 (2017) 1850044 [IF = 0.491]
17. Q. Mahmood, M. Yaseen, M. Hassan, S. M. Ramay, A Mahmood, Paper Theoretical investigation of optical properties and band gap engineering for $Zn_{1-x}TM_xTe$ ($TM = Fe, Co$) alloys by modified Becke–Johnson potential, Chinese Physics B 26 (2017) 087803 [IF = 0.491]
18. Q. Mahmood, M Hassan, M A Faridi, *Study of magnetic and optical properties of $Zn_{1-x}TM_xTe$ ($TM = Mn, Fe, Co, Ni$) diluted magnetic semiconductors: First principle approach*. Chinese Physics B 26 (2017) 027503 [IF = 1.223]
19. M. Hassan, R. Irfan, S. Riaz , S. Naseem and S. S. Hussain and 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 [IF = 0.467]

20. B. Parveen, M. Hassan, Z. Khalid, S. Riaz and S. Naseem, *Room temperature ferromagnetism in Ni doped TiO₂ diluted magnetic semiconductor thin films*, Journal of Applied Research and Technology, 15 (2017) 132-139 [IF = NA]
21. M. Hassan, S. Younas, F. Sher, S. S. Husain, S. Riaz, S. Naseem, *Room temperature ferromagnetism in single-phase Zn_{1-x}MnxS diluted magnetic semiconductors fabricated by co-precipitation technique*. Applied Physics A 123 (2017) 352 [IF = 1.455]
22. Q. Mahmood, M. Hassan, *Systematic first principle study of physical properties of Cd_{0.75}Ti_{0.25}Z (Z=S, Se, Te) magnetic semiconductors using mBJ functional*, Journal of Alloys and Compounds 704 (2017) 659-675 [IF = 3.133]
23. B. Parveen, M. Hassan, S. Atiq, S. Riaz, S. Naseem and Sher Zaman, *Structural, dielectric and ferromagnetic properties of nano-crystalline Co-doped SnS*, Journal of Material Science, 52 (2017) 7369-7381 [IF = 2.599]
24. A Asif, M Hassan, S Riaz, S Naseem, S. S. Hussain, *Effects of Zr substitution on structural, morphological, and magnetic properties of bismuth iron oxide phases*. Chinese Physics B 26 (2017) 087502 [IF = 1.223]
25. Q. Mahmood, M. Hassan, S.H.A. Ahmad, K.C. Bhamu, Asif Mahmood, Shahid M. Ramay: *Study of electronic, magnetic and thermoelectric properties of AV₂O₄ (A = Zn, Cd, Hg) by using DFT approach*. Journal of Physics and Chemistry of Solids, (2017) In Press [IF = 2.059]
26. Muhammad Faisal Iqbal, Mahmood-Ul-Hassan, Muhammad Naeem Ashiq, Shahid Iqbal, Nasreen Bibi, Bushra Parveen: *High Specific Capacitance and Energy density of Synthesized Graphene Oxide based Hierarchical Al₂S₃ Nanorambutan for Supercapacitor Applications*, Electrochimica Acta 246 (2017) 1097-1103 [IF=4.798]
27. Shahid M. Ramay, M. Hassan, Q. Mahmood, Asif Mahmood, *The study of electronic, magnetic, magneto-optical and thermoelectric properties of XCr₂O₄ (X = Zn, Cd) through modified Becke and Johnson potential scheme (mBJ)*, Current Applied Physics 17 (2017) 1038-1045 [IF = 1.971]
28. 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 [IF = 0.946]
29. M. Hassan, I. Arshad, Q. Mahmood, *Computational Study of Electronic, Optical and Thermoelectric Properties of X₃PbO (X = Ca, Sr, Ba) Anti-perovskites*, Semiconductor Science and Technology, (2017) In Press [IF = 2.305]
30. N. A. Noor, M. Hassan, M. Rashid, S.M. Alay-e-Abbas, *Systematic study of elastic, electronic, optical and thermoelectric properties of cubic BiBO₃ and BiAlO₃ compounds at different pressure by using ab-initio calculations*, Materials Research Bulletin, (2017) In Press [IF = 2.446]