

Curriculum Vitae

PERSONAL STATUS

Name: IMAD KHAN
 Date and Place of Birth: 15/02/1984 Swabi, Pakistan
 CNIC: 16201-1442964-7
 Passport NO: FM4119641



Postal Address

Present Address: Department of Physics, University of Malakand, Chakdara
 Permanent Address: Mohallah Yunas Khel V & P/O Yar Hussain
 Tehsil Lahor District Swabi
 Mobile: +92-3446643723
 E-mail: imadkhan723@gmail.com
imadkhan@uom.edu.pk

EDUCATION

Ph. D. *Physics* (2013): University of Malakand, Chakdara, Pakistan
 M. Sc. *Physics* (2008): Hazara University, Mansehra, Pakistan
 B. Sc. *Physics, Mathematics* (2005): University of Peshawar, Pakistan
 B. Ed. (2008): Allama Iqbal Open University Islamabad, Pakistan

PROFESSIONAL EXPERIENCE

Assistant Professor	University of Malakand	July 2014 to -----
Lecturer of Physics	University of Malakand	Oct. 2012 to June 2014
Lecturer of Physics	Hazara University, Mansehra	Sep. 2010 to Jul. 2011)

UNIVERSITY SERVICES

Member of the Board of Faculty, Faculty of Sciences (UOM)	April 17, 2018-
Member of the Graduate Studies Committee Department of Physics (UOM)	Dec. 2014 to -
Coordinator of M. Phil and PhD program Department of Physics (UOM)	Aug. 2014 to -
Staff Procter University of Malakand	Feb. 2015-April 2017

RESEARCH INTEREST

Condensed matter theory, Band gap engineering, optoelectronics, Spintronics, Modeling and development of functional materials and devices, thermoelectric materials, Density functional theory, TD-DFT, 2D materials

Ph. D. THESIS TITLE

DFT Studies of Pure and Transition Metals Substituted II-VI Semiconductors

THESIS SUPERVISED**PhD**

1. Theoretical studies of Skurdites (Dr. Banaras Khan, 2017)

M.Phil

1. Structural and optoelectronic properties of CsLnZnTe_3 (Ln = La, Pr, Nd, Sm, Tb and Gd) (Mr. Ihsan Ullah 2018)
2. The effect of potassium insertion on optoelectronic properties of cadmium chalcogenides (Mr. Shah Abdul Aziz 2018)
3. Optoelectronic properties of CZTSSe thin films (Mr. Mohammad Zubair 2018)
4. Investigations of the structural and optoelectronic properties of alkali niobates (Mr. Altaf-ur-Rahman 2018)
5. Electronic and optical properties of MoSe_2 - WTe_2 heterostructure (Mr. Shab-ud-Din 2018)
6. First principle study of quaternary tellurides CsLnCdTe_3 (Ln = La, Pr, Nd and Sm) for renewable energy resources (Mr. Ijaz Ahmad 2018)
7. First Principles Studies of CsLnCdTe_3 (Ln = Gd–Tm) for Green Energy Resources (Mr. Ataur-Rahman 2017)
8. Structural and optical properties of rare-earth aluminates ReAlO_3 (Re = Sc, Y, La, Ce, Pr) (Mr. Fazlullah 2017)
9. DFT and post-DFT studies of $\text{SrTi}_{1-x}\text{Nb}_x\text{O}_3$ (Mr. Izaz ul Haq 2017)
10. Structural, elastic and mechanical properties of BiTiO_3 and BaFeO_3 (Mr. Akbar Ali 2017)
11. Thermoelectric study of IV-VI semiconductors for renewable energy resources (Mr. Amir Abdullah Khan 2015)
12. ASnF_3 (A = Na, K, Cs and Rb): Promising materials for scintillation (Mr. Nasir Shehzad 2015)
13. Theoretical studies of transitional metal dipnictides for thermoelectric applications (Mr. Rahmat Ali 2015)
14. Ab-initio studies of the topological insulators M_2Nbi (M = La-Nd) (Mr. Rashid Ali 2015)
15. Band gap engineering of MgZTe (Z = Zn, Cd, Hg) (Mr. Fazle Subhan 2014)
16. Cs based I-VI quaternary metal chalcogenides an ab-initio study (Mr. Abdurrahman 2014)
17. First principle studies of Cu based III-VI chalcopyrite semiconductors (Mr. Iltaf Uddin 2014)
18. Elastic and mechanical properties of rare-earth antimonide (Mr. Ijaz Ahmad 2014)

PUBLICATIONS

1. Z. Ali, Israr, Shahid, **Imad Khan**, “Theoretical studies of the electronic structure and magnetic properties of Aluminum-rich intermetallic alloy $\text{Al}_{13}\text{Fe}_4$ ” Accepted in *Int. J. Mod. Phys. B* (2018).
2. A. Khan, Z. Ali, **Imad Khan**, I. Ahmad, “Electronic structure, mechanical and thermoelectric properties of the ternary Palladates CdPd_3O_4 and TlPd_3O_4 : A first principles study” *J. Elect. Mater.* 47, 1871–1880 (2018).
3. S. Mehmood, Z. Ali, **Imad Khan**, I. Ahmad, “Effects of Cobalt substitution on the physical properties of the perovskite Strontium Ferrite” *Mater. Chem. Phys.* 196, 222-228 (2017).

4. N. Ullah, Z. Ali, **Imad Khan**, G. Rehman, I. Ahmad, "Structural, mechanical and optoelectronic properties of the Pyrochlores $Y_2M_2O_7$ (M = Ti, V and Nb): A first principles study" *J. Elect. Mater.* 46, 4640–4648 (2017).
5. B. Khan, M.Y. Kachoei, H.A. R. Aliabad, **Imad Khan**, S.J. Asadabadi, I. Ahmad, "Effects of chemical potential on the thermoelectric performance of alkaline-earth based skutterudites (AFe_4Sb_{12} , A = Ca, Sr and Ba)" *J. Alloys and Compounds* 694, 253–260 (2017).
6. B. Khan, H.A.R. Aliabad, **Imad Khan**, S.J. Asadabadi, I. Ahmad, "Comparative study of thermoelectric properties of Co based filled Antimonide skutterudites with and without SOC effect" *Comp. Mater. Sci.* 131, 308–314 (2017).
7. **Imad Khan**, N. Shehzad, I. Ahmad, Z. Ali, S.J. Asadabadi, "First principle studies of the optoelectronic properties of $ASnF_3$ (A = Na, K, Rb and Cs)" *Int. J. Mod. Phys. B*, 31, 1750148 (2017).
8. Z. Ali, **Imad Khan**, M. Rahman, R. Ahmad, I. Ahmad, "Electronic structure of the $LiAA'O_6$ (A = Nb, Ta, and A' = W, Mo) ceramics by modified Becke-Johnson potential" *Opt. Mater.* 58, 466-475 (2016).
9. A.A. Khan, **Imad Khan**, I. Ahmad, Z. Ali, "Thermoelectric studies of IV-VI semiconductors for renewable energy resources" *Mater. Sci. Semicond. Processing* 48, 85-94 (2016).
10. **Imad Khan**, S. Khan, J. Iqbal, Z. Ali, H.A. R. Aliabad, I. Ahmad, "The influence of oxygen substitution on the optoelectronic properties of ZnTe" *J. Chem.* Volume 2016, Article ID 8160169, 8 pages.
11. S. Ahmad, **Imad Khan**, Z. Ali, A.A. Khan, H.A. R. Aliabad, R. Ahmad, I. Ahmad, "First principle studies of pure and fluorine substituted alanine" *Int. J. Mod. Phys. B*, 30 1650079 (2016).
12. G. Rehman, M. Shafiq, Saifullah, R. Ahmad, S.J. Asadabadi, M. Maqbool, **Imad Khan**, H.R. Aliabad, I. Ahmad, "Electronic band structures of the highly desirable III-V semiconductors: TB-mBJ DFT studies" *J. Elect. Mater.* 45, 3314-3323 (2016).
13. A. Khan, Z. Ali, **Imad Khan**, I. Ahmad, S.J. Asadabadi, "First principles studies of the ternary Palladates $CaPd_3O_4$ and $SrPd_3O_4$ " *Bult. Mater. Sci.* 39, 1861–1870 (2016).
14. **Imad Khan**, F. Subhan, Z. Ali, I. Ahmad, "Structural and optoelectronic properties of Mg substituted ZTe (Z = Zn, Cd and Hg)" *J. Phys. Chem. Solids*, 83, 75–84 (2015).
15. Z. Ali, **Imad Khan**, I. Ahmad, S.J. Asadabadi, M.S. Khan, "Theoretical studies of the paramagnetic perovskites $MTaO_3$ (M= Ca, Sr and Ba)," *Mater. Chem. Phys.* 162, 308-315 (2015).
16. R. Zeb, Z. Ali, I. Ahmad, **Imad Khan**, "Structural and magnetic properties of $TiTF_3$ (T=Fe, Co and Ni) by Hybrid functional theory" *J. Magn. Magn. Mater.* 388, 143–149 (2015).
17. Z. Ali, B. Khan, I. Ahmad, **Imad Khan**, S.J. Asadabadi, "Magneto-electronic studies of the inverse-perovskite $(Eu_3O)In$," *J. J. Magn. Magn. Mater.* 381, 34–40 (2015).
18. B. Khan, H.A.R. Aliabad, Saifullah, S.J. Asadabadi, **Imad Khan**, I. Ahmad, "Electronic band structures of binary Skutterudites," *J. Alloys and Compounds* 647, 364-369 (2015).
19. S. Sadiq, Z. Ali, **Imad Khan**, G. Rehman, I. Ahmad, M. Sadiq, N. Rahman, "Structural, electronic, elastic and magnetic properties of ternary Sodium Palladium and Platinum Oxides" *Zeitschrift für Naturforschung* 70, 815–822 (2015).
20. R. Iqbal, **Imad Khan**, I. Ahmad, H.A.R. Aliabad, "DFT studies of Magneto-optic properties of $CdCoS$," *J. Magn. Magn. Mater.* 351, 60–64 (2014).

21. Z. Ali, M. Shafiq, S. J. Asadabadi, H. A. R. Aliabad, **Imad Khan**, I. Ahmad, “Magneto-electronic studies of anti-perovskites NiNMn_3 and ZnNMn_3 ,” *Comp. Mat. Sci.* 81, 141–145 (2014).
22. M. Bilal, M. Shafiq, I. Ahmad, **Imad Khan**, “First principle studies of structural, elastic, electronic and optical properties of Zn-chalcogenides under pressure” *J. Semicond.* 35, 072001-9 (2014).
23. **Imad Khan**, I. Ahmad, D. Zhang, H.A.R. Aliabad, S. J. Asadabadi, “Electronic and optical properties of mixed Be-chalcogenides,” *J. Phys. Chem. Solids*, 74, 181–188, (2013).
24. **Imad Khan**, I. Ahmad, H. A. R. Aliabad, S. J. Asadabadi, Z. Ali, M. Maqbool, “Conversion of optically isotropic to anisotropic $\text{CdS}_x\text{Se}_{1-x}$ ($0 \leq x \leq 1$) alloy with the substitution of S,” *Comp. Mat. Sci.* 77, 145–152 (2013).
25. **Imad Khan**, H.A.R. Aliabad, W. Ahmad, Z. Ali, I. Ahmad, “First principle studies of optoelectronic properties of the visible light sensitive CZT” *Superlattices and Microstructures* 63, 91–99 (2013).
26. **Imad Khan**, I. Ahmad, “Theoretical studies of the band structure and optoelectronic properties of $\text{ZnO}_x\text{S}_{1-x}$ ” *Int. J. Quantum Chem.* 113, 1285–1292 (2013).
27. Z. Ali, **Imad Khan**, I. Ahmad, S. Naeem, H.A.R. Aliabad, S.J. Asadabadi, D. Zhang, “Comparison of the electronic band profiles and magneto-optic properties of cubic and orthorhombic SrTbO_3 ” *Physica B* 423, 16–20 (2013).
28. H.A.R. Aliabad, V. Hesam, I. Ahmad, **Imad Khan**, “Electronic band structure of $\text{LaCoO}_3/\text{Y/Mn}$ compounds” *Physica B* 410, 112–119 (2013).
29. Z. Ali, S. Ali, I. Ahmad, **Imad Khan**, H.A. R. Aliabad, “Structural and optoelectronic properties of the zinc titanate perovskite and spinel by modified Becke-Johnson potential” *Physica B* 420, 54–57 (2013).
30. Z. Ali, I. Ahmad, B. Khan, **Imad Khan**, “Robust half-metallicity and magnetic properties of cubic perovskite CaFeO_3 ” *Chin. Phys. Lett.* 30, 047504-047508 (2013).
31. **Imad Khan**, I. Ahmad, H.A. R. Aliabad, M. Maqbool, “Effect of phase transition on the optoelectronic properties of $\text{Zn}_{1-x}\text{Mg}_x\text{S}$ ” *J. App. Phys.* 112, 073104-9 (2012).
32. **Imad Khan**, A. Afaq, H. A. R. Aliabad and I. Ahmad, “Transition from optically inactive to active Mg-chalcogenides: A first principle study” *Comp. Mat. Sci.* 61, 278–282 (2012).
33. Z. Ali, I. Ahmad, **Imad Khan**, B. Amin, “Theoretical investigations of the cubic perovskite SnTaO_3 ,” *Intermetallics*, 31, 287–291 (2012).
34. **Imad Khan**, I. Ahmad, B. Amin, G. Murtaza, Z. Ali, “Band gap engineering of $\text{Cd}_{1-x}\text{Sr}_x\text{O}$ ” *Physica B* 406, 2509–2514 (2011).
35. Z. Ali, I. Ahmad, B. Amin, M. Maqbool, G. Murtaza, **Imad Khan**, M.J. Akhtar, F. Ghafor. “Theoretical studies of structural and magnetic properties of cubic perovskites PrCoO_3 and NdCoO_3 ” *Physica B* 406, 3800–3804 (2011).
36. G. Murtaza, I. Ahmad, B. Amin, A. Afaq, M. Maqbool, J. Maqssod, **Imad Khan** and M. Zahid, “Investigation of structural and optoelectronic properties of BaThO_3 ” *Optical Materials* 33, 553–557 (2011).

CONFERENCE PROCEEDINGS

1. **Imad Khan**, I. Ahmad, H.A. R. Aliabad, M. Maqboold, “DFT-mBJ studies of the band structures of the II-VI semiconductors” International Conference on Solid State Physics 2013 (ICSSP’13), *Materials Today: Proceedings 2* (2015) 5122 – 5127
2. Imad Khan, “Optical properties with Density Functional Theory” One day Conference on International Year of Light (IYL2015), University of Malakand with collaboration with NILOP, Pakistan, Nov. 24, 2015.
3. Imad Khan, “Modeling and simulation within material science,” International Conference on Condensed Matter Physics and Engineering, Bahauddin Zakariya University, Multan, Pakistan, 27-29 Dec. 2012.
4. Imad Khan, “Efficient band gap predictions of II-VI semiconductors,” 2nd International Work shop on Materials Modeling and Simulation (IWMMS2), University of Malakand, Chakdara, Pakistan, 21-24 May, 2012.
5. Imad Khan, “New trends in density functional theory,” 3rd International Work shop on Materials Modeling and Simulation (IWMMS3), University of Malakand, Chakdara, Pakistan, July 21-24, 2013.

CONFERENCE AND WORKSHOP ORGANIZED

1. 1st National Conference on Advances in Physics, University of Malakand, Pakistan, Nov. 7-8, 2017.
2. 1st National Conference on Emerging Trends in Materials Science, Abbottabad University of Science and Technology (AUST), Abbottabad, Pakistan, Oct. 5-7, 2017.
3. One day Conference on International Year of Light (IYL2015), University of Malakand with collaboration of NILOP, Pakistan, Nov. 24, 2015.
4. International Conference on Condensed Matter Physics and Engineering, Bahauddin Zakariya University, Multan, with collaboration of University of Malakand, Pakistan, Dec. 27-29, 2013.
5. 3rd International Workshop on Materials Modeling and Simulation (IWMMS3), University of Malakand, Chakdara, Pakistan, July 21-24, 2013.
6. 2nd International Workshop on Materials Modeling and Simulation (IWMMS2), University of Malakand, Chakdara, Pakistan, May 21-24, 2012.

ACADEMIC REFERENCES

- ❖ Prof. Dr. Iftikhar Ahmad (Chairman Deptt: of Physics University of Malakand, Pakistan)
E-mail: ahma5532@gmail.com
Contact #: +92-3329067866
- ❖ Dr. Rashid Ahmad (Prof. Deptt: of Chemistry University of Malakand, Pakistan)
E-mail: rashmad@gmail.com
Contact #: +92-3335104105
- ❖ Dr. Daqing Zhang (Asso. Prof. Deptt: of Physics, California State University, Fresno, USA)
E-mail: dzhang@csufresno.edu
Contact #: (559) 278-7096