

# Dr. Afaq Ahmad

Associate Professor (TTS)

RESEARCH PUBLICATIONS = 54

Total IF = 52.551 (2006-2016)

Year 2006: (IF=0.488)

1. **Interferences in Photo-detachment of a Negative Molecular Ion**  
A Afaq and M. L. Du, Commun. Theor. Phys. **46** (1), 119-122 (2006)

(IF=0.488)

Year 2007: (IF=1.902)

2. **A theoretical imaging method for the photo-detachment of H<sup>-</sup> near a reflecting surface**  
A Afaq and M. L. Du, J. Phys. B: At. Mol. Opt. Phys. **40**, 1309 (2007)

(IF=1.902)

Year 2008: (IF=2.379)

3. **Photo-detachment of H<sup>-</sup> near a partial reflecting surface-I**  
A Afaq Chin. Phys. Lett. **25**(2), 475 (2008)
4. **Interferences in Photo-detachment of a Negative Molecular Ion Model**  
A Afaq and M. L. Du, Commun. Theor. Phys. **50** (6), 1401-1406 (2008)
5. **A study of FBG sensor and electrical strain gauge for strain measurements**  
B. A. Tahir, J. Ali Saktioto, M. Fadhali, R. A. Rahman, A. Ahmed,  
J. Optoelectronics and Advanced Materials **10**(10) 2564 (2008)

(IF=1.078)

(IF=0.488)

(IF=0.813)

Year 2009: (IF=7.207)

6. **Effect of Laser and Mechanical Parameters on Strength of Fiber Bragg Gratings**  
Bashir Ahmed Tahir , Abdul Rashid , M. Asif , A. Afaq, Jalil Ali and Rosly Abdul Rahman, International Journal of Modern Physics B, **23**(1), 77 (2009)
7. **Interferences in the Photo-detachment of a Tri-atomic negative molecular ion**  
A Afaq, M. A. Ahmad, A. Rashid, Iftikhar Ahmad, B. A. Tahir, and Tahir Hussain  
Applied Physics Letters **94**, 041125(2009)
8. **Oscillations in the Photo-detachment cross sections of a two-center system**

(IF=0.647)

(IF=3.845)

A Afaq and M. L. Du, J. Phys. B: At. Mol. Opt. Phys, **42**, 105101 (2009) (IF=1.902)

9. **An investigation of linearity and sensitivity of Fiber Bragg Grating sensors**  
B. A. Tahir, J. Ali, A. Rahman, A. Ahmed, Journal of Optoelectronics and Advanced Materials, **11**(11), 1692 (2009) (IF=0.813)

**Year 2010: (IF=2.135)**

10. **Generalized gradient calculations of structural, electronic and optical properties of  $Mg_xCd_{1-x}O$  oxides**  
Bin Amin, Iftikhar Ahmad, Muhammad Maqbool, Nazma Ikram, Yasir Saeed, Afaq Ahmad, Sunila Arif, Journal of Alloys and Compound **493**, 212 (2010) (IF=2.135)
11. **Oscillations in the photo-detachment of a linear tri-atomic negative ion**  
A Afaq, M. Hanif and Iftikhar Ahmad arxiv 1001.4183v1 (2010)

**Year 2011: (IF=10.337)**

12. **Classification of partially reflecting surfaces using Photo-detached electron spectrum**  
A. Afaq and Iftikhar Ahmad, Int. J. of Quantum Chem. **111**(15), 4067-4071 (2011) (IF=1.317)
13. **Investigation of spherical effects on the photodetached electron-spectra**  
M. Haneef, Iftikhar Ahmad, A. Afaq, A. Rahman, J. Phys. B: At. Mol. Opt. Phys. **44**, 195004 (2011) (IF=1.902)
14. **Interferences in the photodetached-electron spectra from a linear tetra-atomic negative ion**  
A Rehman, Iftikhar Ahmad, A. Afaq, M. Haneef, Chin. Phys. Lett. **28**(6), 063301 (2011) (IF=1.078)
15. **Investigation of a linear tetra-atomic negative ion by photodetached-electron spectra**  
A.Rehman, Iftikhar Ahmad, A. Afaq, M. Haneef, H. J. Zhao, Chin. Phys. Lett. **28**(8), 083301 (2011) (IF=1.078)
16. **Investigation of structural and optoelectronic properties of BaThO3**  
G. Murtaza, Iftikhar Ahmad, B. Amin, A. Afaq, M. Maqbool, J. Maqssod, I. Khan and M. Zahid, Optical Materials **33**(3), 553-557 (2011) (IF=1.728)
17. **Linear and non-linear optical response of  $Mg_xZn_{1-x}O$ : A Density Functional study**  
G. Murtaza, Iftikhar Ahmad, B. Amin, A. Afaq, F. Ghafoor, A. Benamrani, Physica B: condense matter, **406**, 2632-2636 (2011) (IF=0.856)

18. **First principle study of cubic perovskites:  $\text{AgTF}_3$  (T=Mg, Zn)** G.  
 Murtaza, G. Sadique, H. A. Rahnamaye Aliabad, M. N. Khalid, S. Naeem, A. Afaq, B. Amin, Iftikhar Ahmad, *Physica B: Condensed Matter* **406**, 4584 (2011)  
(IF=0.856)
19. **Structural and Optoelectronic Properties of Cubic  $\text{CsPbF}_3$  for Novel Applications**  
 G. Murtaza, Iftikhar Ahmad, M. Maqbool, H. A. Rahnamaye Aliabad, A. Afaq  
*Chin. Phys. Lett.* **28**(11), 117803 (2011). (IF=1.078)
20. **Effect of Sensor Gauge Length on Strain Sensitivity of Fiber Bragg Grating System**  
 B A Tahir, A. Saeed, Afaq Ahmed, S. M. Zafar Iqbal, Rashid Ahmed, M. Gul Baha Ashiq, Hewa Yaseen Abdullah, and Rosly Abdul Rahman, *Chinese journal of Physics*, **49**(5), 1035 (2011) (IF=0.444)

**Year 2012: (IF=9.848)**

21. **Cutting of Nonmetallic Materials Using Nd: YAG Laser Beam**  
 Bashir Ahmed Tahir, Rashid Ahmed, M. G. B. Ashiq, Rosly Abdul Rahman<sup>1</sup>, Afaq hmed and M. A. Saeed, *Chinese Physics B*, **21**(4), 044201 (2012) (IF=1.63)
22. **Photo-detachment of  $\text{H}^-$  near a Hard Spherical Surface**  
 M. Haneef, Iftikhar Ahmad, A. Afaq, A. Rahman, *Chin. Phys. Lett.* **29**(1), 013202 (2012) (IF=1.078)
23. **Structural, electronic and optical properties of  $\text{Ca}_x\text{Cd}_{1-x}\text{O}$  and its conversion from semimetal to wide band gap semiconductor**  
 G. Murtaza, B. Amin, S. Arif, M. Maqbool, I. Ahmad and A. Afaq, S. Nisar, M. Imran, M. Hanif, *Computational Materials Science*, **58**, 71 (2012) (IF=1.574)
24. **Photo-detachment of a Homo-Nuclear Linear Tetra-Atomic Negative Molecular Ion**  
 A. Rahman, Iftikhar Ahmad, A. Afaq, H. J. Zhao, *Chin. Phys. Lett.* **29**(4), 043301 (2012) (IF=1.078)
25. **Transition from optically inactive to active Mg-Chalcogenides: A first principle study**  
 Imad Khan, A. Afaq, H. A. Rahnamaye Aliabad, and Iftikhar Ahmad, *Computational Materials Science*, **61**, 278-282 (2012) (IF=1.458)
26. **A Comprehensive DFT Study of Zinc Oxide in Different Phases"**  
 Bakhtiar Ul Haq, A. Afaq, R. Ahmed, and S. Naseem, *Int. J. Mod. Phys. C*, **23**(6), 1250043 (2012) (IF=0.700)
27. **Structural, Electronic and Magnetic Properties of Co-Doped ZnO.**  
 Bakhtiar Ul Haq, A. Afaq, R. Ahmed and S. Naseem, *Chinese physics B* **21** (9), 097101 (2012)

- (IF=1.630)**
- 28. Structural, Electronic and Optical Properties of  $MgS_xSe_{1-x}$ ,  $MgS_xTe_{1-x}$  and  $MgSe_xTe_{1-x}$  ( $0 \leq x \leq 1$ ) alloys From First Principles**  
 A. Sajid, S. M. Alay-e-Abbas, A. Afaq and A. Shaukat, Int. J. Mod. Phys. B, **26**(17), 1250098 (2012)  
**(IF=0.700)**
- 29. Classical Limit in the Photo-detachment of a Diatomic Anion: A Two-Center Model Approach**  
 Sadia Ashiq, Afaq Ahmad, Sci. Int. (Lahore), **24**(2), 113 (2012)
- 30. Photo-detached Electronic Wave Function of Hydrogen Halide Anions**  
 Ayesha Amjad, Afaq Ahmad, Maryam Nawaz, Sadia Ashiq, Sci. Int. (Lahore), **24**(4) 337 (2012)

**Year 2013: (IF=4.751)**

- 31. Shift of indirect to direct band gap in going from K to Cs in  $MCaF_3$  ( $M=K, Rb, Cs$ )**  
 G. Murtaza, Iftikhar Ahmad, A. Afaq, Solid State Sciences, **16**, 152 - 157, (2013)  
**(IF=1.671)**
- 32. Electron Flux Distributions in Photodetachment of  $HF^-$  near an interface: Theoretical Imaging method Study.**  
 Maryam Nawaz Awan and A. Afaq, Chinese Physics B, **22**(1), 013205 (2013)  
**(IF=1.630)**
- 33. Photo-detachment of  $H^-$**   
 Tyyiba Fiyazi, Afaq Ahmad, Int. Sci. (Lahore), **25**(1), 71 (2013)
- 34. First Principle study of Electronic and Optical Properties of Magnesium based Chalcogenides**  
 A.Sajjid, A. Afaq and G. Murtaza, Chinese Journal of Physics, **51**(2), 328, (2013)  
**(IF=0.444)**
- 35. Electronic structure engineering of ZnO with the modified Becke-Johnson exchange versus the classical correlation potential approaches.**  
 Bakhtiar Ul Haq, R. Ahmed, Souraya Goumri-Said, A. Shaari and A. Afaq, Phase Transitions, **86**(12), 1167, (2013)  
**(IF=1.006)**
- 36. Dissociation Distance of  $H_2^-$  Molecule:Two-center Model Study**  
 Sadia . A. Afaq. A. Shahzad. A. Muhammad Masood, Int. Sci. (Lahore), **25**(4), 693 (2013)

**Year 2014: (IF=2.636)**

- 37. A Study of Cr doping on the Structural and Electronic Properties of ZnO: A First Principles Study**

BAKHTIAR UL HAQ, R. AHMED, A. SHAARI, **A. AFAQ** & R. HUSSAIN, Sains Malaysiana, **43**(6), 813-817 (2014) (IF=0.408)

**38. Interferences in Photo-detached Electron Spectra from a non-collinear triatomic anion**

A.Afaq, K. Farooq, M. A. Khan, X. X. Yi, Chinese Physics B, **23** (10), 103304 (2014) (IF=1.630)

**39. Photo-detachment of a non-collinear triatomic anion**

A.Afaq, K. Farooq, Brazilian J. Phys. **44**(6) 609-6013 (2014) (IF=0.598)

**40. First Principles Band-gap Calculations of 3d Transition Metals-added Rock-salt ZnO**

M. Ashraf, **A. Afaq**, Research & Reviews: Journal of Physics, **3**(2), 1-4 (2014)

**Year 2015: (IF=9.448)**

**41. First-principles Investigations of Mn doped zinc-blende ZnO based Magnetic Semiconductors: Materials for Spintronic applications**

Bakhtiar Ul Haq, R. Ahmed, A. Shaari, **A. Afaq**, B. A. Tahir, R. Khenata, Materials Science in Semiconductor Processing, **29**, 256-261 (2015) (IF=1.995)

**42. First Principles Study of Scandium Nitride and Yttrium Nitride Alloy System: prospective material for optoelectronics**

Bakhtiar Ul Haq, **A. Afaq**, Galila Abdellatif, R. Ahmed, S. Naseem, Rabah Khenata, Superlattices and Microstructures **85**, 24 (2015). (IF=1.979)

**43. Photo-detachment of  $H^-$  near a hard elastic wall with arbitrary laser polarization**

Azmat Iqbal, **A. Afaq**, Chinese Physics B, **24**(8), 083201 (2015) (IF=1.630)

**44. Photodetachment of  $H^-$  Near Inelastic Surfaces: Arbitrary Laser Polarization Direction**

Azmat Iqbal, **A. Afaq**, R. J. Amjad, Int. j. Quantum Chem., **15**, 1526, (2015) (IF=1.432)

**45. Structural, electronic and elastic properties of the cubic  $CaTiO_3$  under pressure: A DFT study**

Saad Tariq, **Afaq Ahmed**, Saher Saad, Samar Tariq, AIP, Advances, **5**, 077111 (2015) (IF=1.590)

**46. Photodetachment spectrum of hydrogen negative ion near a spherical surface**

**A. Afaq**, A. Iqbal, and A. Iftikhar, Can. J. Phys. Accepted (IF=0.822)

**47. Polarization-dependent photo-detachment of Hydrogen negative ion near a metal surface**

A. Afaq, N. Hafsa, Int. j. Quantum Chem., submitted

**48. Putting DFT to the Trial: First principles pressure dependent analysis on optical properties of cubic perovskite SrZrO<sub>3</sub>**

Ghazanfar Nazir, Afaq Ahmad, Muhammad Farooq Khan, Saad Tariq, Computational Condensed Matter, **4**, 32 (2015) [\(Open Access\)](#)

**49. Theoretical photo detachment microscopy of H<sup>-</sup> ion near an interface using theoretical imaging method**

Maryam Nawaz Awan, Afaq Ahmad, Mujahid Kamran, Material Today: Proceedings, **2**, 5136 (2015). [\(Open Access\)](#)

**50. First principles band-gap calculations of 3d transition metals added ZnO**

Muhammad Ashraf, Afaq Ahmad, Material Today: Proceedings **2**, 5128 (2015).

[\(Open Access\)](#)

### **Year 2016 (IF=1.42)**

**51. Photodetachment spectrum of hydrogen negative ion near a spherical surface**

A. Afaq, A. Iqbal, A. Iftikhar, and M. Asif, Canadian J. Phys. **94**, 26 (2016).

[\(IF=0.822\)](#)

**52. Pressure-Dependent Structural and Optical Properties of CdSe**

Research & Reviews: Journal of Physics, **5**(1), 1-5 (2016)

[\(Open Access\)](#)

**53. Structural and Optical Properties of ZnSe Under Pressure**

Research & Reviews: Journal of Physics, **5**(1), 6-10 (2016)

[\(Open Access\)](#)

**54. Photodetachment Spectrum of Hydrogen Negative Ion Near a Partially Reflecting Spherical Surface**

A. Afaq, Azmat Iqbal, Amin Ur Rahman, Naveed Khan, Fazal-e-Aleem, M. Mushraf Ansari, Braz. J. Phys. DOI 10.1007/s13538-016-0440-5

[\(IF=0.598\)](#)