

## *Curriculum Vitae of Dr. Md. Atikur Rahman*

### **Address:**

**Dr. Md. Atikur Rahman**

Associate Professor

Department of Physics

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### **1. Academic Qualifications:**

Degree/ Examination	Institution (University / College/ School/ Department)	Class/Division/ GPA (Percent Marks where applicable)	Year
<b>PhD</b> in Physics	Department of Physics, Pabna University of Science and Technology Pabna-6600, Bangladesh.	Successfully Awarded	2021
<b>M.Sc.</b> (Thesis)	Department of Physics, University of Rajshahi.	<b>First Class (1<sup>st</sup> Position)</b>	2010
<b>B.Sc.</b> (Hons.) (4 years Integrated)	Department of Physics, University of Rajshahi.	<b>First Class (1<sup>st</sup> Position)</b>	2009
H.S.C. (Science group)	Dr. Nashir Uddin Talukdar College, Natore.	4.90	2005
S.S.C. (Science group)	Srish Chandra BidyaNiketon High School, Natore.	4.50	2003

### **2. Teaching Experiences (start from the present):**

Position	Institution	From	To
Associate Professor	Department of Physics, Pabna University of Science & Technology	7 <sup>th</sup> October	Till Now
Assistant Professor	Department of Physics, Pabna University of Science & Technology	1 <sup>st</sup> September, 2015	6 <sup>th</sup> October
Lecturer	Department of Physics, Pabna University of Science & Technology	1 <sup>st</sup> September, 2013	31 <sup>th</sup> August, 2015

### 3. Professional Awards / Honours Received:

National Science and Information and Communication Technology Scholarship (2010), Professor Basak Award 2009, Professor Basak Scholarship-2006, 2008, sponsored by Peninsula Welfare Trust, Bangladesh and Gold Medal by Shaheed Suhrawardy Hall for First class in B.Sc. Honours (2009) .

### 4. Teaching activities undertaken (course and laboratory) at undergraduate and graduate levels since the last appointment (last five years)

Sl.	Course No.	Title of The Courses Taught	Level	No. of Students	(Lectures Per Week) or (Hours/week)	Year
1.	PHY 5104	Advanced Materials Science	Graduate	20, 28, 24	4	2016- 2018
2.	PHY 4203	Crystallography and Spectroscopy	Undergraduate	31, 40, 28	3	2016-2018
3.	PHY 4104	Non-Conventional Energy	Undergraduate	31, 40, 28	3	2016 -2018
4.	PHY 3201	Basic Solid State Physics	Undergraduate	40, 28, 31	3	2016-2018
5.	PHY 1101	Mechanics and Properties of Matter	Undergraduate	37, 27, 29, 35	3	2016-2019
6.	PHY 1251	Mechanics, Properties of Matter, Wave and Sound	Undergraduate	37, 37, 40	3	2016-2018
7.	PHY 2255	Electricity, Magnetism and Modern Physics	Undergraduate	45, 44	3	2017, 2018
8.	PHY 3106	Physics Lab	Undergraduate	40	9	2016
9.	PHY 3205	Physics Lab	Undergraduate	28	9	2017
10.	PHY 2104	Physics Lab	Undergraduate	31	9	2017
11.	PHY 2204	Physics Lab	Undergraduate	23	9	2018

### 5. Supervision Thesis/Design Project at undergraduate Level since the last appointment

Sl.	No. of Student	No. of Project /Thesis	Design	Year/Period
1.	4	4	Project	2017(2011-2012)
2.	5	5	Project	2018(2012-2013)
3.	5	5	Project	2019(2013-2014)
4.	6	6	Project	2020(2014-2015)

## 6. Supervision of Completed Graduate Research Work

Sl.	Level (Masters/M.Phil/ Ph.D.)	Thesis/Project Title	Year/Period
1.	Masters (Thesis)	Physical Properties of ThCr <sub>2</sub> Si <sub>2</sub> -type Rh-based compounds ARh <sub>2</sub> Ge <sub>2</sub> (A=Ca, Sr, Y and Ba): DFT Based First-principles investigation.	2018 (2014-2015)
2.	Masters (Thesis)	First Principles Study of Structural, Elastic, Electronic and Optical Features of the Non-centrosymmetric Superconductors SrMGe <sub>3</sub> (Where M= Ir, Pt, and Pd).	2020 (2016-2017)
3.	Masters (Thesis)	First Principles Study of Structural, Elastic, Electronic, Optical and Thermodynamic Properties of Pt <sub>3</sub> Zr.	2020 (2016-2017)
4.	Masters (Thesis)	Comprehensive study on the physical properties of tetragonal BaMn <sub>2</sub> X <sub>2</sub> (X= P, As, Sb) compounds: An <i>ab initio</i> investigation.	2021 (2017-2018)
5.	Masters (Project)	Structural, elastic, electronic and optical properties of new layered ternary compound SrCu <sub>2</sub> Ge <sub>2</sub> : a first principles investigation.	2019 (2015-2016)
6.	Masters (Project)	Structural, elastic, electronic and optical properties of new layered pnictides compound CaZn <sub>2</sub> Ge <sub>2</sub> : a first principle calculation.	2019 (2015-2016)
7.	Masters (Project)	Structural, Mechanical, Electronic, Mulliken atomic Populations and Optical Properties of Compound SrZn <sub>2</sub> Ge <sub>2</sub> .	2019 (2015-2016)
8.	Masters (Project)	Structural, Mechanical, Electronic, Mulliken atomic Populations and Optical Properties of Compound SrMn <sub>2</sub> Ge <sub>2</sub> .	2019 15- 2016)

## 7. Research Grants Received (last fifteen years)

Sl.	Organization Offering the Grant	Project title	Period
1.	Ministry of Science and Technology (R&D) research grant.	Growth of MgTa <sub>2</sub> O <sub>6</sub> crystals by solid-state method for high efficiency device applications.	2016 - 2017
2.	Pabna University of Science and Technology	Synthesis, Characterization and Physical Properties of CoCr <sub>2</sub> O <sub>4</sub> by Solid-State Reaction and First Principles Method.	2019-2020
3.	Pabna University of Science and Technology	The Structural, Elastic, Electronic, Optical and Thermodynamic Properties of ThCr <sub>2</sub> Si <sub>2</sub> - type nickel-based superconductors BaNi <sub>2</sub> T <sub>2</sub> (T=P, As): An <i>ab-initio</i> study.	2018-2019
4.	Pabna University of Science and Technology	An <i>ab-initio</i> study on Structural, Electronic and Magnetic Properties of Iron and Cuprate based Superconductors.	2014-2015

## 8. List of publications:

1.	M. Atikur Rahman , J.F. Lubna,S. Sarker, R. Khatun, S. Kumur Saha, M.Z. Rahaman,K.M. Hossain, M.Rasheduzzaman, M.Z. Hasan, First-Principles Study of the Physical Properties of $\text{CuV}_2\text{S}_4$ under Pressure, <i>Physics of the Solid State (publisher: Springer)</i> , 2022, Vol. 64, No. 8.
2.	M. I. Kholil, M. T. H. Bhuiyan, <b>M. Atikur Rahman</b> , M. S. Ali and M. Aftabuzzaman, Influence of molybdenum and technetium doping on visible light absorption, optical and electronic properties of lead-free perovskite $\text{CsSnBr}_3$ for optoelectronic applications, <i>RSC Advances (Royal Society of Chemistry)</i> , 2021, Vol. No.: 11, pages: 2405-2414, ISSN: 2046-2069 (online), Impact factor: 3.07, DOI: 10.1039/d0ra09853a.
3.	Md. Khokon Miah, Khandaker Monower Hossain, <b>Md. Atikur Rahman</b> , Md. Rasheduzzaman, S. K. Mitro, Jibon Krishna Modak, Md. Zahid Hasan, Comprehensive study on the physical properties of tetragonal $\text{LaTGe}_3$ ( $T = \text{Rh, Ir, Pd}$ ) compounds: An <i>ab-initio</i> investigation, <i>AIP Advances (American Institute of Physics)</i> , 2021, Vol. No.: 11, pages: 025046:1-14, ISSN: 2158-3226 (online), Impact factor: 1.579, DOI: 10.1063/5.0042924.
4.	M. I. Kholil, M. T. H. Bhuiyan, <b>M. Atikur Rahman</b> , M. S. Ali and M. Aftabuzzaman, Effects of Fe doping on the visible light absorption and band gap tuning of lead-free ( $\text{CsSnCl}_3$ ) and lead halide ( $\text{CsPbCl}_3$ ) perovskites for optoelectronic applications, <i>AIP Advances (American Institute of Physics)</i> , 2021, Vol. No.: 11, pages: 035229:1-11, ISSN: 2158-3226 (online), Impact factor: 1.579, DOI: 10.1063/5.0042847.
5.	Md. Zahid Hasan, Md. Abu Rayhan, <b>Md. Atikur Rahman</b> , Md. Rasheduzzaman, Jibon Modak, Khandaker Monower Hossain, Insights into the physical properties of inverse-Heusler alloy $\text{Cr}_2\text{CoGa}$ via density functional theory, <i>Physica Scripta (IOPscience)</i> , 2021, Vol. No.: 96, Issue: 05, ISSN: 1402-4894, Impact factor: 1.985, DOI: 10.1088/1402-4896/abe90e.
6.	Sushmita Sarker, <b>Md. Atikur Rahman</b> , Rukayia Khatun, Study of structural, elastic, electronics, optical and thermodynamic properties of $\text{Hf}_2\text{PbC}$ under pressure by <i>ab-initio</i> method, <i>Computational Condensed Matter (ELSEVIER)</i> , 2021, Vol. No.: 26, ISSN: 2352-2143, Impact factor: 0.97, DOI: 10.1016/j.cocom.2020.e00512.
7.	<b>M. Atikur Rahman</b> , M. R. Akter, M. Romana Khatun, R. Sultana, and M. A. Razzaque Sarker, Synthesis and Characterization of High-Quality Polycrystalline Sample $\text{NiV}_2\text{O}_6$ by Solid-State Reaction Technique, <i>Physics of the Solid State (Springer)</i> , 2020, Vol. No.: 62, Issue No.: 6, Pages: 1024–1032, ISSN: 1063-7834 (print), Impact factor: 0.99, DOI: 10.1134/S1063783420060049.
8.	<b>Md. Atikur Rahman</b> , Md. Abdur Razzaque Sarker, Synthesis, characterization and physical properties of high quality $\text{MgV}_2\text{O}_6$ crystals by solid-state reaction and <i>ab-initio</i> methods, <i>Journal of Alloys and Compounds (ELSEVIER)</i> , 2019, Vol. No.: 797, Pages: 630-639, ISSN: 0925-8388, Impact factor: 4.65, DOI: 10.1016/j.jallcom.2019.05.081.

9.	<b>Md. Atikur Rahman</b> , Md. Zahidur Rahaman, Md. Shahjahan Ali, The physical properties of ThCr <sub>2</sub> Si <sub>2</sub> - type nickel-based superconductors BaNi <sub>2</sub> T <sub>2</sub> (T = P, As): An <i>ab-initio</i> study, <a href="#"><u>Chinese Journal of Physics (ELSEVIER)</u></a> , 2019, Vol. No.: 59, Pages: 58-69. ISSN: 0577-9073, Impact factor: 2.64, DOI: 10.1016/j.cjph.2018.12.026.
10.	M.U. Salma, <b>Md. Atikur Rahman</b> , Md. Ibrahim Kholil, Md. Shahjahan Ali, MgCu <sub>2</sub> -type Laves phases CaPt <sub>2</sub> , SrPd <sub>2</sub> and SrPt <sub>2</sub> : a DFT based ab-initio investigation, <a href="#"><u>Solid State Communications (ELSEVIER)</u></a> , 2019, Vol. No.: 296, Pages: 1-7, ISSN: 0038-1098, Impact factor: 1.52, DOI: 10.1016/j.ssc.2019.03.012.
11.	M. U. Salma and <b>Md. Atikur Rahman</b> , Physical properties of ThCr <sub>2</sub> Si <sub>2</sub> -type Rh-based compounds ARh <sub>2</sub> Ge <sub>2</sub> (A = Ca, Sr, Y and Ba): DFT based first-principles investigation, <a href="#"><u>International Journal of Modern Physics B (World Scientific)</u></a> , 2019, Vol. No.: 32, Pages: 1850357-20, ISSN: 0217-9792 (print), Impact factor: 0.863, DOI: 10.1142/S0217979218503575.
12.	Uttam Kumar Chowdhury, <b>Md. Atikur Rahman</b> , Afjalur Rahmana, Pretam Kumar Das M.U.Salma Md. Shahjahan Ali, Dayal Chandra Roy, The Physical Properties of ThCr <sub>2</sub> Si <sub>2</sub> -type Ru-based Compounds SrRu <sub>2</sub> X <sub>2</sub> (X= P, Ge, As): An ab-initio Investigation, <a href="#"><u>Physica C Superconductivity and its Application (ELSEVIER)</u></a> , 2019, Vol. No.: 562, Pages: 48-55,ISSN: 0921-4534, Impact factor: 1.24, DOI: 10.1016/j.physc.2018.11.002.
13.	Mst. Jannatul Naefa, <b>Md. Atikur Rahman</b> , Physical properties of ThCr <sub>2</sub> Si <sub>2</sub> -type Ni-based compounds SrNi <sub>2</sub> M <sub>2</sub> (M= As and Ge): DFT based Ab-initio calculations, <a href="#"><u>Physica C: Superconductivity and its Applications (ELSEVIER)</u></a> , 2019, Vol. No.: 560, Pages: 19-25, ISSN: 0921-4534, Impact factor: 1.24, DOI: <a href="#"><u>10.1016/j.physc.2019.02.007</u></a> .
14.	Md. Shahjahan Ali, <b>Md. Atikur Rahman</b> , Md. Zahidur Rahaman, A theoretical investigation of ThCr <sub>2</sub> Si <sub>2</sub> -type Pd-based superconductors XPd <sub>2</sub> Ge <sub>2</sub> (X = Ca, Sr, La, Nd), <a href="#"><u>Physica C: Superconductivity and its Applications (ELSEVIER)</u></a> , 2019, Vol. No.: 561, Pages: 35-44, ISSN: 0921-4534, Impact factor: 1.24, DOI: <a href="#"><u>10.1016/j.physc.2018.10.015</u></a> .
15.	<b>Md. Atikur Rahman</b> , Md. Zahidur Rahaman, Md. Shahjahan Ali, Md. Abdur Razzaque Sarker, Theoretical investigation on MgV <sub>2</sub> O <sub>6</sub> : <i>Ab-initio</i> study, <a href="#"><u>Philosophical Magazine (Taylor &amp; Francis)</u></a> , 2018, Vol. No.: 98, Issue No.: 22, Pages: 2077-2093, ISSN: 1478-6435 (Print). Impact factor: 1.86, DOI: 10.1080/14786435.2018.1468094.
16.	Md. Zahidur Rahaman, <b>Md. Atikur Rahman</b> , Investigation on the Physical Properties of Two Laves Phase Compounds HRh <sub>2</sub> (H = Ca and La): A DFT Study, <a href="#"><u>International Journal of Modern Physics B (World Scientific)</u></a> , 2018, Vol. No.: 32, Issue No.: 12, Pages: 1850149-13, ISSN: 0217-9792 (print), Impact factor: 0.863, DOI: 10.1142/S0217979218501497.
17.	Md. Zahidur Rahaman, Md. Lokman Ali, <b>Md. Atikur Rahman</b> , Pressure dependent mechanical and thermodynamic properties of newly discovered cubic Na <sub>2</sub> He, <a href="#"><u>Chinese Journal of Physics (ELSEVIER)</u></a> , 2018, Vol. No.: 56, Pages: 231-237. ISSN: 0577-9073, Impact factor: 2.64, DOI: <a href="#"><u>10.1016/j.cjph.2017.12.024</u></a> .

18.	M.U. Salma, <b>Md. Atikur Rahman</b> , Study of structural, elastic, electronic, mechanical, optical and thermodynamic properties of NdPb <sub>3</sub> intermetallic compound: DFT based calculations, <i>Computational Condensed Matter (ELSEVIER)</i> , 2018, Vol. No.: 15, Pages: 42-47, ISSN: 2352-2143, Impact factor: 0.97, DOI: 10.1016/j.cocom.2018.04.001.
19.	Md. Zahidur Rahaman, <b>Md. Atikur Rahman</b> , ThCr <sub>2</sub> Si <sub>2</sub> -type Ru-based superconductors LaRu <sub>2</sub> M <sub>2</sub> (M = P and As): An ab-initio investigation, <i>Journal of Alloys and Compounds (ELSEVIER)</i> , 2017, Vol. No.: 695, Pages: 2827-2834, ISSN: 0925-8388, Impact factor: 4.65, DOI: 10.1016/j.jallcom.2016.11.418.
20.	Md. Zahidur Rahaman, <b>Md. Atikur Rahman</b> , Novel 122-type Ir-based superconductors BaIr <sub>2</sub> Mi <sub>2</sub> (Mi = P and As): A density functional study, <i>Journal of Alloys and Compounds (ELSEVIER)</i> , 2017, Vol. No.: 711, Pages: 327-334, ISSN: 0925-8388, Impact factor: 4.65, DOI: 10.1016/j.jallcom.2017.04.006.
21.	Md. Zahidur Rahaman, <b>Md. Atikur Rahman</b> , Md. Abdur Razzaque Sarker, Prediction of a new transition metal oxide MgRhO <sub>3</sub> with SrTiO <sub>3</sub> -type structure: Stability, structure and physical characteristics, <i>Chinese Journal of Physics (ELSEVIER)</i> , 2017, Vol. No.: 55, Pages: 1489–1494. ISSN: 0577-9073, Impact factor: 2.64, DOI: 10.1016/j.cjph.2017.03.021.
22.	Md. Afjalur Rahman, Md. Zahidur Rahaman, <b>Md. Atikur Rahman</b> , The structural, elastic, electronic and optical properties of MgCu under pressure: A first-principles study, <i>International Journal of Modern Physics B (World Scientific)</i> , 2016, Vol. No.: 30, Pages: 1650199-16, ISSN: 0217-9792 (print), Impact factor: 0.863, DOI: 10.1142/S021797921650199X.
23.	Md. Lokman Ali, Md. Zahidur Rahaman and <b>Md. Atikur Rahman</b> , The structural, elastic and optical properties of ScM (M = Rh, Cu, Ag, Hg) intermetallic compounds under pressure by ab initio simulations, <i>International Journal of Computational Materials Science and Engineering, (World Scientific)</i> , 2016, Vol. No.: 5, Issue No.: 4, Pages: 1650024-17, ISSN: 2047-6841 (print), Impact factor: 0.20, DOI: 10.1142/S204768411650024X.
24.	<b>Md. Atikur Rahman</b> , Md. Zahidur Rahaman, Md. Abdur Razzaque Sarker, First principles investigation of structural, elastic, electronic and optical properties of HgGeB <sub>2</sub> (B=P, As) chalcopyrite semiconductors, <i>Computational Condensed Matter (ELSEVIER)</i> , 2016, Vol. No.: 09, Pages: 19-26, ISSN: 2352-2143, Impact factor: 0.97, DOI: 10.1016/j.cocom.2016.09.00.
25.	Md. Zahidur Rahaman, <b>Md. Atikur Rahman</b> , Novel Laves phase superconductor NbBe <sub>2</sub> : A theoretical investigation, <i>Computational Condensed Matter (ELSEVIER)</i> , 2016, Vol. No.: 08, Pages: 07-13, ISSN: 2352-2143, Impact factor: 0.97, DOI: 10.1016/j.cocom.2016.06.001.
26.	<b>Md. Atikur Rahman*</b> , Md. Shahidul Islam, and Nahida Farjana, The Physical Properties of ThCr <sub>2</sub> Si <sub>2</sub> - Type Co-based Compound SrCo <sub>2</sub> Si <sub>2</sub> : An ab-initio Study, <i>International Journal of Material and Mathematical Sciences</i> , ISSN: 2707-4625 (Online) & 2707-4617 (Print), 3(3), 50-59, 2021. <a href="https://doi.org/10.34104/ijmms.021.050059">https://doi.org/10.34104/ijmms.021.050059</a> .
27.	Maliha Nishat <sup>1</sup> , <b>Md. Atikur Rahman<sup>1*</sup></b> , Rojina Islam <sup>2</sup> , Investigation of the Effect of 3d TM-TM Atom Co-Doped in Graphene Nanosheet: DFT Based Calculations, <i>International Journal of Material and Mathematical Sciences</i> , ISSN: 2707-4625 (Online) & 2707-4617 (Print), 3(6), 113-123, 2021, <a href="https://doi.org/10.34104/ijmms.021.01130123">https://doi.org/10.34104/ijmms.021.01130123</a> .

9. Contribution to the Department Other Than Teaching and Research already stated above during the period under review (**last five years**):

**a) Curriculum Improvement:**

- (i) Worked as a member to design Syllabus for B.Sc. (Hon's) and M.S. of Department of Physics, Pabna University of Science and Technology, Pabna, Bangladesh.
- (ii) Worked as a member to design experiments at the Department of Physics, Pabna University of Science and Technology, Pabna, Bangladesh.

**b) Laboratory Development:**

- (i) Worked as a member to develop Second year Laboratory at the Department of Physics, Pabna University of Science and Technology, Pabna, Bangladesh.
- (ii) Worked as a member to develop Third year Laboratory at the Department of Physics, Pabna University of Science and Technology, Pabna, Bangladesh.

10. Contribution to the University Administration during the period the under review (**last five years**):

Hall Administration (mention period including position held): Assistant Provost (2017-2018).

**11. Personal Information:**

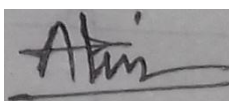
a)	Father's / Husband's Name	:	Md. Anisur Rahman
b)	Nationality	:	Bangladeshi (National ID No.: 2832583807)
c)	Present Address	:	Associate Professor, Department of Physics, Pabna University of Science and Technology, Pabna-6600, Bangladesh.
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**12. Name and Address of Three References with contact number:**

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- c) **Dr. Md. AbdurRazzaque Sarker**  
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I certify that the statements made above are correct.



07.06.2022

Applicant's signature

**(Dr. Md. Atikur Rahman)**

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Department of Physics

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