

**Dr.A. Basherrudin Mahmud Ahmed**

Assistant Professor, Department of Theoretical Physics  
School of Physics, Madurai Kamaraj University

Madurai – 625021 Tamil Nadu

Email: abmahmed.physics@mkuniversity.org (off)

abmahmed@gmail.com (personal)

Phone: 9600151764(Mobile)



---

**1. Personal Details**

Date of Birth & Age : 06/06/1979 & 43 Years  
Gender & Marital Status : Male & Married  
Community : BC  
Nationality : Indian  
Place of Birth :Sankarankoil

**2. Educational Qualifications****2.1. Academic**

Degree/ Examination	Name of the Exam	University/ Institute	Year of Passing	Percentage/ Grade	Main Subject
Under Graduate	BSc(Physics)	Sadakathullah Appa College, ManonmaniamSundaranar University	1999	78%	Physics
Post Graduate	MSc (Physics)	School of Physics, M K University	2002	74.81 %	Physics
NET	CSIR NET- LS		2004		Physics

**2.2. Research**

Degree	Name of the University	Title of the Thesis	Date of Submission	Date of Award
PhD	IITMadras	Entanglement dynamics in Linear and Nonlinear Jaynes Cummings Interaction Models	05/09/2011	04/02/2012

### 3. Post-Doctoral/ Research Associate / Industrial Experience

Name of the University / Institute / Industry	Period of Work	Nature of Work
-----	-----	-----

### 4. Professional Experience

No	Name of the University / Institution	Position Held	From (Date)	To (Date)
1	Madurai Kamaraj University	Assistant Professor I	18/03/2010	13/06/2014
2	Madurai Kamaraj University	Assistant Professor II	14/06/2014	13/06/2019
3	Madurai Kamaraj University	Assistant Professor III	14/06/2019	Till date

### 5. Teaching

No	Year	Semester	Course Code	Course Title	Hours per Week
1	2022-23	Odd	PHY2211C	Mathematical Physics I	05
2	2022-23	Odd	PHY2135E	Laser Physics	05
3	2022-23	Odd	UG	Mechanics	04
4	2022-23	Odd	PHY2134C	Practical III	08
5	2021-22	Even	PHY2121C	Classical Mechanics	05
6	2021-22	Odd	PHY2111C	Mathematical Physics I	05
7	2021-22	Odd	MPHY12C	Eigen Physics	05

### 6. Design/Development of New Curricula and Courses

No	Description	Organization for which it was Developed	Level(PG/UG)
-	-	-	-

### 7. Creation of ICT Mediated Teaching-Learning Pedagogy

#### 7.1. SWAYAM / MOOCs

No	Description	Organization for which it was Developed	Level(PG/UG)
-	-	-	-

#### 7.2. E-Contents

No	Description	Organization for which it was Developed	Level(PG/UG)
-	-	-	-

#### 7.3. Development of other ICT Mediated Teaching-Learning Pedagogy

No	Description	Organization for which it was Developed	Level(PG/UG)
-	-	-	-

## 8. Research Specialization / Field of Research

- Theoretical Quantum Optics
- Theoretical Quantum Information
- Computational Condensed Matter Physics

## 9. Research Publications

Type	International	National
Papers Published in UGC-CARE Listed Journals	09	-
Papers in Refereed Journals (Not mentioned above)	01	-
Books Published	-	-
Books Edited	-	-
Contributions to Book Chapters	01	-
Editor of Conference/Seminar Proceedings	-	-
Papers Published in Conference/Seminar Proceedings	-	-
Papers Presented in Conferences/Seminars	04	04
Conference/Seminar/Workshop Attended	-	-
Deposits in CCDC, PDB, etc.	-	-

## 10. Citation Metrics

Cumulative Impact Factor (Recent Annual JCR)	-
Total Citations (Scopus/Web of Science)	-
h-Index (Scopus/Web of Science)	-
g-Index (Scopus/Web of Science)	-
i10 Index (Scopus/Web of Science)	-

## 11. Details of Patents

NIL

## 12. Research Guidance/Supervision

Degree / Programme	Completed	Submitted	Ongoing
PhD (Full-time)	--	---	04
PhD (Part-time)	--	---	---
MPhil Research Project (Full-time)	11	---	---
MPhil Research Project (Part-time)	---	---	---
MSc Projects/Dissertation	31	---	05
MSc Internships/Summer or Winter Projects	---	---	---

### 13. Funded Research Projects

#### 13.1. Ongoing

No	Title of the Project	Funding Agency	Period / Duration	Total Grants Sanctioned (Rs)
1.	Earth abundant, non toxic and Sulphur free metal oxide thin film solid solar cell fabrication using facile techniques. (One of the Principle investigators)	RUSA	2021-2023	87,04,000

#### 13.2 Completed

No	Title of the Project	Funding Agency	Duration and Month & Year of Completion	Total Grants Received (Rs)	No of Papers out of Project
-	-	-	-	-	-

### 14. Reviewer in Journals

Name of the Journal	Publisher	No of Papers Reviewed
Journal of Physics A: Mathematical and General Physics	Institute of Physics	02
Pramana – Journal of Physics	Springer	02

### 15. Research Collaborations

Name of the Collaborator	Institute	Collaboration Details
Dr. R Chandrasekar	CQuICC, IIT Madras	Publication

### 16. Countries Visited

Name of the Country	Period	Purpose
France	May 2008 to August 2008	Internship at Ecole Polytechnique, Paris

### 17. Honours / Awards / Recognitions

Name of the Honours / Awards / Recognition	Awarding Agency	International / National / State / Institute Level
-	-	-

### 18. Conferences / Seminars / Workshops Organized

Level	Conference Title	Date(s)	Place	Role Played	Funding
MSc Physics	Mini PTTS 2022	07/12/2022 – 11/12/2022	School of Physics, MKU	Local coordinator	Infosys Science Foundation

					through PTTS
--	--	--	--	--	-----------------

### 19. Invited Lectures / Resource Person

No	Institute / Organizer	Name of the Conference / Seminar / Workshop	International / National / State / Institute Level	Date(s)
1	Alagappa University	ACT NEXT 2022	State	10/01/2023
2	Sri S.R.N.M College, Sattur.	Training Programme for the Preparation of JAM, GATE & CSIR-NET Examinations in Physical Sciences	State	26/09/2022 to 27/09/2022
3	Saraswathi Narayann College, Madurai	Guest Lecture	Institute	23/12/2021
4	Senthamarai College of Arts and Science, Madurai	Guest Lecture	Institute	22/12/2021
5	The Academy of Sciences, Chennai and Bharathiar University	Summer Training Program in Physics – 2021 (ONLINE)	State	20/07/2021 to 07/08/2021
6	V. V. Vanniaperumal College for Women, Virudhunagar.	Guest Lecture under DBT Star College Programme	Institute	15/03/2021
7	UGC- HRDC, Bharathiar University	Refresher Course in Quantum Biology	National	04/02/2021

### 20. Professional Development Programs / Faculty Development Programs Organized

Name of the Program	Role	Place	Date(s)	Funds in Rs & Sponsor
Refresher Course in Physics	Course Coordinator	School of Physics, MKU	10/11/2021 to 23/11/2021	UGC- HRDC

## 21. Professional Development Programs / Faculty Development Programs Attended

Name of the Program	Place	Date(s)	Sponsor
Refresher Course in Physics	School of Physics, MKU	09/12/2020 to 22/12/2020	UGC- HRDC
Refresher Course in Physics	School of Physics, MKU	16/11/2018 to 06/12/2018	UGC- HRDC
Refresher Course in Physics	School of Physics, MKU	12/11/2013 to 02/12/2013	UGC- HRDC
Orientation course	UGC – HRDC MKU	15/11/2012 to 12/12/2012	UGC – HRDC MKU

## 22. Administrative Experiences

Role Played	Responsibilities	Period (from ... to)
CBCS Exam Coordinator, School of Physics, MKU	Conducting CBCS Examinations	June 2010 to till date
Member, IQAC		28/11/2022 to till date
Member, Managing Committee, Parvathy's Arts & Science College, Dindigul	Advisory capacity	01/04/2021 to 31/03/2023
Member, Implementation Committee, UGC STRIDE	Coordinating the activities	28/09/2020 to 31/03/2023
Member, NAAC Steering Committee, MKU	Coordinating the NAAC Peer Team Visit	March 2021

## 23. Membership in Academic Bodies

Name of the University / Institute / College	Type of Membership	Duration / Period
The Madura College (Autonomous), Madurai.	University Nominee, BoS in Physics.	09/07/2021 to 08/07/2023
HajeeKaruthaRowtherHowdia College (Autonomous), Uthamapalayam.	University Nominee, BoS in B.Sc Physics.	17/03/2021 to 16/03/2023
Fatima College (Autonomous), Madurai.	University Nominee, BoS in Physics.	29/01/2021 to 28/01/2023
The MannarThirumalai Naicker	University Nominee,	29/01/2021 to

College (Autonomous), Madurai.	BoS in B.Sc Physics.	28/01/2023
The American College (Autonomous), Madurai.	University Nominee, BoS in Physics.	25/01/2021 to 24/01/2023
V. V. Vanniaperumal College for Women, Virudhunagar.	University Nominee, BoS in Physics (UG).	19/01/2021 to 18/01/2023
NMS SVN College (Autonomous), Madurai.	University Nominee, BoS in Physics (UG, PG &M.Phil).	11/01/2021 to 10/01/2023

#### 24. Membership in Recognised Professional Bodies

Name of the Professional Body	International / National	Type of Membership
-	-	-

#### 25. Languages Known

Languages	Read	Write	Speak
Tamil	Yes	Yes	Yes
English	Yes	Yes	Yes

#### 26. Competence in Computer Applications

MATLAB

#### 27. Involvement in Extension Activities other than Academic Works

#### 28. Any Other Relevant Information

## Details of Publications

### 3. Contribution to Book Chapters

1. J. Merlin, A. Basherrudin Mahmud Ahmed, (2022). “**Nonclassical Evidences of Class of Number States Filtered Coherent States for Quantum Information**”. In the Book, P. Srivastava, M. L. Thivagar, G. I. Oros & C. C. Tan (Eds.), **Mathematical and Computational Intelligence to Socio-scientific Analytics and Applications**, (pp. 243–252), Springer Publications.

### 5. Research Publications

#### 5.1. UGC-CARE Listed Journals

1. Optical Tomogram of Number State Filtered Coherent States, J. Merlin and A. Basherrudin Mahmud Ahmed\* *Acta Physica Polonica A*, **2022**, *141(5)*, 516.  
Impact Factor: 0.6;
2. Operational Resource Measure Of Nonclassicality For Number States Filtered Coherent States, J. Merlin, E. Devibala and A. Basherrudin Mahmud Ahmed\* *The European Physical Journal D*, **2022**, *76*, 47.  
Impact Factor: 1.6;
3. Evolution of the Number State Filtered Coherent State In A Kerr Medium, J. Merlin and A. Basherrudin Mahmud Ahmed\* *Journal of Russian Laser Research*, **2022**, *43*, 546.  
Impact Factor: 0.8;
4. Nonclassicality of Photon Added Bipartite Glauber Lachs State, Sathiyabama Ramanujam and A. B. M. Ahmed\*, *J. Phys. Conf. Ser.*, **2021**, *1850*, 012066.  
Impact Factor: 0.8;
5. Nature of electronic states of substitutional nitrogen in anatase supercell: a DFT study, A Suresh, B Kanimozhi, A B M Ahmed, V Vasu, and N Soundararajan, *Material Research Express*, **2019**, *6*, 085908.
6. Quantum Correlations in Excited Coherent W-type State R. Sathiyabama, A. B. M. Ahmed\*, and S. Naina Mohammed, *AIP Conference Proceedings*, **2017**, *1849*, 020023.
7. Nonclassical Features Of Trimodal Excited Coherent Greenberger - Horne - Zeilinger (GHZ) - Type State J. Merlin, A. B. M. Ahmed\* and S. Naina Mohammed, *AIP Conference Proceedings*, **2017**, *1849*, 020026. Impact Factor: 0.8;
8. Effect of Squeezing on the Atomic and the Entanglement Dynamics in the Jaynes-Cummings Mode, T. Subeesh\*, Vivishek Sudhir, A. B. M. Ahmed and M. Venkata Satyanarayana, *Nonlinear Optics and Quantum Optics*, **2012**, *44*, 245–258.  
Impact Factor: 0.8;
9. Dynamics of Entanglement in a Two-Mode Nonlinear Jaynes-Cummings Model, A. B. M. Ahmed and S. Sivakumar, *Nonlinear Optics and Quantum Optics*, **2010**, *41*, 219–241.  
Impact Factor: 0.8;



## 5.4. Papers Presented in Conferences / Seminars

### 5.4.2. International held within India

1. Sathiyabama Ramanujam, (A.B. M. Ahmed \*), In international conference on advanced physics 2021, Nonclassical correlations in the Nonlocal photon added displaced thermal states, IEM Kolkata, April 01 – 03, 2021.
2. Merlin J, A.B.M. Ahmed\*, In international conference on advanced physics 2021, Classicality and anticlassicality of number state filtered coherent state, IEM Kolkata, April 01 – 03, 2021.
3. A.B. M. Ahmed \*, In international conference on advanced physics 2021, Classicality of the coherent superposition of photon addition and subtraction on squeezed coherent states, IEM Kolkata, April 01 – 03, 2021.
4. K. Nithish Sriram, A.B.M. Ahmed\*, Indo-Norwegian International Online conference - Functional materials for energy environment And biomedical applications (FARAON-2022), Structural, mechanical and electronic properties of Cu<sub>2</sub>O for different XC-Functionals using Quantum Espresso, Madurai Kamaraj University, Madurai, 2-4 February 2022.
5. Sathiyabama Ramanujam, A.B.M. Ahmed\*, Squeezing properties of Nonlocal photon added continuous variable trimodal coherent state, International Conference on Nano science And Nanotechnology '19, VIT Vellore, November 29 to December 01, 2019

### 5.4.3. National

1. J. Merlin, A.B.M. Ahmed\*, Entanglement Creation in Noisy Laser Environment by Nonlocal Photon Addition, Student Conference on Optics and Photonics, Physical Research Laboratory Ahmedabad, October 4-6, 2018.
2. E. Devibala, A.B.M. Ahmed\*, Non-Gaussianity of the Family of Schrodinger Cat States, Student Conference on Optics and Photonics, Physical Research Laboratory Ahmedabad, September 28-30, 2022.