

# **Curriculum-Vitae**

## **DR. MIR HASHIM RASOOL**

Assistant Professor

Department of Physics

Islamic University of Science and Technology,

Awantipora Kashmir -192122



## **Personal**

Date of Birth: 16-08-1985

Permanent Address: Hyder Colony Dialgam Anantnag, Kashmir, J&K  
India – 192210

Office Address: Department of Physics, Islamic University of Science and Technology  
Awantipora, Kashmir, J&K India -192122

Contact: +91 (01933) 247954 - Ext.

Mobile No. : +91-8494081362/ +91- 7006526380

Email : [hrasool23@gmail.com](mailto:hrasool23@gmail.com); [hashim.rasool@islamicuniversity.edu.in](mailto:hashim.rasool@islamicuniversity.edu.in)

Language Fluency: English, Urdu, Hindi and Kashmiri

## **Positions Held**

26 March, 2018 – Present : Assistant Professor, Department of Physics, Islamic University of Science & Technology, Awantipora.

01 March, 2016 to 25 March, 2018: Assistant Professor (Non Substantive) Department of Physics, IUST, Awantipora.

## **Research Projects**

UGC - BSR Research Start - Up - Grant of **Rs. 10 lac.** (On going).

Multidimensional Erratic Fluctuations of Relativistic Shower Particles Produced in the Collisions of  $^{32}\text{S}$  – Em at 200 AGeV

## **Awards**

Alburuj R. Rahman Prize for the best Ph.D Thesis (2016).

## **Educational Qualifications:**

### **1) Ph. D.**

Degree: Ph. D.  
Duration: Sep. 2012 – Oct. 2015  
Field: Experimental High Energy Physics.  
Topic: Some Aspects of Heavy Ion Collisions at Relativistic Energies.  
Department: Department of Physics  
University: Aligarh Muslim University, Aligarh, U. P. India – 202002.

### **2) M. Phil.**

Degree: M. Phil.  
Duration: Jan. 2010 – June 2012  
Field: Experimental High Energy Physics.  
Department: Department of Physics  
University: Aligarh Muslim University, Aligarh, U. P. India – 202002.

### **3) Post Graduation**

Degree: M. Sc.  
Duration: May 2007 – June 2009  
Discipline: Physics  
Department: Department of Physics  
University: University of Kashmir, Srinagar, Jammu and Kashmir 190006.  
Grade: First Division

### **4) Bachelors Degree**

Degree: B. Sc.  
Duration: May 2004 – Mar. 2007  
Discipline: Physics, Mathematics, Electronics and English  
College: Govt. Degree College Anantnag  
University: University of Kashmir, Srinagar, Jammu and Kashmir 190006.  
Grade: First Division

### **5) Intermediate**

Board: J&K BOSE  
Year: 2003  
Division: First Division

### **6) High School**

Board: J&K BOSE  
Year: 2001  
Division: Distinction

## Research and Teaching Experience:

- 6 years of research experience ( M. Phil 2 & 1/2 Years and PhD. 3 & 1/2 Years)
- 5 years of teaching experience of B.Sc. Laboratory classes at Department of Physics, Aligarh Muslim University, Aligarh India.
- 8 years teaching experience at Department of Physics, Islamic University of Science and Technology, Awantipora, Kashmir.

## Computer/Computational Skills:

Microsoft Windows/MacOS/Linux, Microsoft Office, Xmgrace, Origin, Latex, Scilab, Fortran, C/C<sup>++</sup>.

## Papers Published in Peer Reviewed Journals:

- [1] Study of Ground State Properties in Atomic Nuclei using Hartree Fock Bogoliubov Approach  
Sumaya Gul, **Mir Hashim** and Honey Sharma  
*Strad Research (2021)*
- [2] Signature of Intermittency during Emission of Target Associated Particles in Heavy Ion Collisions at SPS Energies  
**Mir Hashim Rasool**, M. Ayaz Ahmad, Shafiq Ahmad  
*J. Math. Comput. Sci. 11 (2021)*
- [3] Fluctuations in produced charged particle multiplicities in relativistic nuclear collisions for simulated events.  
M. Ayaz Ahmad, Jalal Hasan Baker, **Mir Hashim Rasool**, Shafiq Ahmad, R. Dobra, D. Pasculescu and Charles Roberto Telles  
*IOP Conf. Series: Journal of Physics: Conf. Series 1258 (2019)*
- [4] Methodology of Wavelets in Relativistic Heavy Ion Collisions in One Dimensional Phase Space ( $\eta$ -Space).  
Vyacheslav V. Lyashenko<sup>1</sup>, M. Ayaz Ahmad, Zhanna V. Deineko, **Mir Hashim Rasool**  
*Journal of High Energy Physics, Gravitation and Cosmology Vol.3 No.2 (2017)*

- [5] Some Features of Statistical Quantum Chromo- dynamics in Relativistic Heavy Ion Collisions  
 Mohammad Ayaz Ahmad, **Mir Hashim Rasool**, Jalal Hasan Bake, Shafiq Ahmad  
*International Journal of Science and Research (IJSR) 6(1):377-380 (2017).*
- [6] Some Observations on Levy Stability and Intermittency in Nucleus-Nucleus Interactions at SPS Energies.  
**Mir Hashim Rasool** and Shafiq Ahmad.  
*Chinese Journal of Physics 55, 260 (2017)*
- [7] Multifractality in Relativistic Charged Particles Produced at SPS Energies.  
**Mir Hashim Rasool** and Shafiq Ahmad.  
*Chaos, Solitons and Fractals 84, 58 (2016).*
- [8] Multifractal Study and Multifractal Specific Heat of Singly Charged Particles Produced in  $^{32}\text{S}$ - Em Interactions at 200AGeV.  
**Mir Hashim Rasool**, M. Ayaz Ahmad and Shafiq Ahmad.  
*Chaos, Solitons and Fractals 81, 197-202 (2015)*
- [9] Slow Particle Production in Nucleus-Nucleus Collisions at Relativistic Energies.  
**Mir Hashim Rasool**, M. Ayaz Ahmad, Omveer Singh and Shafiq Ahmad.  
*Journal of Modern Physics 7, 51 (2016).*
- [10] Signal of Unusual Large Fluctuations in  $^{32}\text{S}$ -Em Interactions at SPS Energies.  
**Mir Hashim Rasool**, M. Ayaz Ahmad and Shafiq Ahmad.  
*Journal of Korean Physical Society 67, 448(2015).*
- [11] Study of Compound Particle Production in  $^{28}\text{Si}$  and  $^{32}\text{S}$ -Emulsion Collisions at 14.6and 200 AGeV.  
**Mir Hashim Rasool**, M. Ayaz Ahmad, Muzamil Ahmad and Shafiq Ahmad.  
*World Scientific Journal of Nuclear Science and Technology 5, 208 (2015)*
- [12] Multiplicities of Forward - Backward Relativistic Charged Particles Produced in  $^{32}\text{S}$ - Emulsion interactions at 200 AGeV/c.  
**Mir Hashim Rasool**, M. Ayaz Ahmad, Omveer Singh and Shafiq Ahmad.  
*Chinese Journal of Physics.53, 5 (2015)*
- [13] Some Important Features of Relativistic Charged Particles Produced in  $^{32}\text{S}$ -Emulsion Interactions at 200AGeV/c.  
**Mir Hashim Rasool**, M. Ayaz Ahmad, Omveer Singh and Shafiq Ahmad.  
*Journal of Modern Physics, 6, 1498 (2015)*

- [14] Study of Fractality and Chaoticity in  $^{28}\text{Si}+\text{Emulsion}$  Collisions at Energy 14.6 A GeV  
M. Ayaz Ahmad, **Mir Hashim Rasool**, Shafiq Ahmad and Jamal H. Madani  
*Journal of Nuclear and Particle Physics* 4, 47 (2014).
- [15] Erratic Fluctuations of Nuclear Fragments in the Collisions of  $^{28}\text{Si}$ -Emulsion Nuclei at BNL Energies.  
M. Ayaz Ahmad, **Mir Hashim Rasool**, Shafiq Ahmad and Jamal Hamza Madani  
*International Journal of Pure and Applied Physics (IJPAP)*, 9:73-84(2013).
- [16] Scaling Nature of Target Fragments in the Interaction of  $^{28}\text{Si}$ -Emulsion Collisions at Energy 14.6 A GeV.  
M. Ayaz Ahmad, **Mir Hashim Rasool** and Shafiq Ahmad  
*Ukrainian Journal of Physics*, 58, 944(2013).
- [17] General Characteristics of Heavy Ion Collisions at the Energy of 14.6 A GeV.  
M. Ayaz Ahmad, Shafiq Ahmad and **Mir Hashim Rasool**.  
*International Journal of Theoretical and Applied Physics (IJTAP)*, 2,199 (2012).
- [18] Study of Fractality due to Particles Produced in Heavy Ion Collisions at High Energies.  
M. Ayaz Ahmad, **Mir Hashim Rasool**, Shafiq Ahmad, A. M. Abd El-Khalek,  
Syed Khasim, M. Y. El-Bakry  
*International Journal of Theoretical and Applied Physics* 3, 2250-0634 (2013).
- [19] Study of Deconfinement Phase Transition in Heavy Ion Collisions at BNL Energies.  
M. Ayaz Ahmad, **Mir Hashim Rasool**, Shafiq Ahmad, Jamal H. Madani, R. Ayad  
*International Journal of Applied Physics and Mathematics, (IJAPM)*, 4, 289(2013)
- [20] Integral Frequency and Rapidity Gap Distributions of Secondary Charged Particles Produced in Heavy Ion Collisions at High Energies  
M. Ayaz Ahmad, **Mir Hashim Rasool**, Shafiq Ahmad, A. M. Abd El-Khalek, M. Y. El-Bakry, Syed Khasim  
*International Journal of Mathematical Sciences and Engineering Applications (IJMSEA)*; 7, 353(2013).
- [21] An Approach for the Study of Multiplicity Correlations and Fluctuations in Relativistic Heavy Ion Collisions.  
M. Ayaz Ahmad, **Mir Hashim Rasool**, Ameer A. Nandalur, Shafiq Ahmad  
*Mathematical Sciences International Research Journal*: 111(2013).

- [22] Chaotic Behaviour of Multiparticle Production in Relativistic Heavy Ion Collisions.  
Mohammad Ayaz Ahmad, **Mir Hashim Rasool**, Shafiq Ahmad, N.Ameer Ahmad, Jamal H. Madani.  
International Journal of Enhanced Research in Science Technology and Engineering, (IJERSTE), 2, 77(2013).

### Papers Published in Conference Proceedings:

- [1] Study of Intermittency in Two-Dimensional Phase-space.  
**Mir Hashim Rasool**, M. Ayaz Ahmad and Shafiq Ahmad.  
Proceedings of DAE Symposium on Nuclear Physics (2011) Vol. 56 P980.
- [2] Some Results on  $^{32}\text{S}$ -Emulsion Interactions at 200 AGeV.  
**Mir Hashim Rasool**, M. Ayaz Ahmad and Shafiq Ahmad.  
Proceedings of DAE Symposium on Nuclear Physics (2012) Vol. 57 P802.
- [3] Angular and Pseudo-rapidity Distributions of Relativistic Charged Particles Produced in the Interactions of  $^{32}\text{S}$ -Em at 200 AGeV  
**Mir Hashim Rasool**, Mohammad Ayaz Ahmad, Shafiq Ahmad  
Proceedings of International Symposium on Nuclear Physics (2013) Vol. 58 P766.
- [4] Neural Networking (N-N) Model in Relativistic Heavy Ion Collisions.  
Mohammad Ayaz Ahmad, **Mir Hashim Rasool**, N. Ameer Ahmad, Shafiq Ahmad  
Proceedings of International Symposium on Nuclear Physics (2013) Vol. 58 P762.
- [5] Some Important Features of Compound Multiplicity in  $^{28}\text{Si}$  and  $^{32}\text{S}$  with Nuclear Emulsion Collisions at 14.6 and 200 AGeV.  
**Mir Hashim Rasool**, Mohammad Ayaz Ahmad, Muzamil Ahmad, OmVeer and Shafiq Ahmad.  
Proceedings of DAE Symposium on Nuclear Physics (2014) Vol. 59 P710.
- [6] Intermittency Phenomenon for Simulated Central Nuclear Reaction of Pb + AgBr Events at 158 AGeV  
Mohammad Ayaz Ahmad, **Mir Hashim Rasool** and Shafiq Ahmad  
Proceedings of DAE Symposium on Nuclear Physics (2014) Vol. 59 P734.
- [7] Multifractal Analysis of Relativistic Charged Particle Distribution in  $^{32}\text{S}$ -AgBr Interactions at 200 AGeV.  
**Mir Hashim Rasool**, M. Ayaz Ahmad, Omveer Singh and Shafiq Ahmad.  
Proceedings of DAE Symposium on Nuclear Physics (2015) Vol. 60 P732.

- [8] Characteristics of Compound Multiplicity in  $^{28}\text{Si}$ -Em Interactions at 14.6 AGeV. Omveer Singh, **Mir Hashim Rasool**, M. Ayaz Ahmad and Shafiq Ahmad  
Proceedings of DAE Symposium on Nuclear Physics (2015) Vol. 60 P734.
- [9] Method for the Characterization of Central Collisions in Nuclear Emulsion Experiment  
M. Ayaz Ahmad, **Mir Hashim Rasool**, Muzamil A. Bhat, Omveer Singh, Shafiq Ahmad and M. Y. Bakry.  
Proceedings of DAE Symposium on Nuclear Physics (2015) Vol. 60 P766.
- [10] One Dimensional Multifractal Study of Singly Charged Particles Produced in  $^{32}\text{S}$  - AgBr Interactions at CERN SPS Energies  
**Mir Hashim Rasool**, M. Ayaz Ahmad, Ishfaq Majeed and Shafiq Ahmad  
Proceedings of DAE Symposium on Nuclear Physics (2016) Vol. 61 P706
- [11] Some Energy – Angular Correlations of Secondary Charged Particles Produced in Relativistic Heavy Ion Collisions  
M. Ayaz Ahmad, **Mir Hashim Rasool**, Shafiq Ahmad, R. Dobra and D. Pascluescu.  
Proceedings of DAE Symposium on Nuclear Physics (2016) Vol. 61 P802
- [12] Multifractal Analysis of Multiplicity Fluctuations in  $^{32}\text{S}$  – AgBr Interactions at 200 AGeV.  
Mir Hashim Rasool, M. Ayaz Ahmad and Shafiq Ahmad  
Proceedings of the DAE Symp. on Nucl. Phys. Vol. 63 (2018) P950
- [13] Nuclear Effect in terms of Hurst Exponent in  $^{28}\text{Si}$ -Emulsion Collisions at 14.6A GeV, M. Ayaz Ahmad, **Mir Hashim Rasool**, Jalal H. Baker, Shafiq Ahmad, Mbunwe Muncho Josephine  
Proceedings of the DAE Symp. on Nucl. Phys. Vol. 63 (2018) P956

**Papers Presented in Various International/ National Conferences/Symposia:**

- [1] A Study of Erraticity Gaps in  $^{28}\text{Si}$ -AgBr Collisions at 14.6 AGeV.  
M. Ayaz Ahmad, **Mir Hashim Rasool** and Shafiq Ahmad.  
6<sup>th</sup> International Conference on Physics and Astrophysics of Quark-Gluon-Plasma (ICPAQGP-2010), Goa, India, 6-10 Dec. 2010.
- [2] Study of Intermittency in Two Dimensional Phase-space.  
**Mir Hashim Rasool**, M. Ayaz Ahmad and Shafiq Ahmad.  
DAE-BRNS Symposium on Nuclear Physics Dept. of Nuclear Physics, Andhra University, Visakhapatnam, A.P. India-530003, Dec. 26-30,2011.
- [3] Some Results on  $^{32}\text{S}$ -Emulsion Interactions at 200 AGeV.  
**Mir Hashim Rasool**, M. Ayaz Ahmad and Shafiq Ahmad.  
DAE-BRNS Symposium on Nuclear Physics Department of Physics and Astrophysics, University of Delhi 110007, India, Dec. 3-7, 2012.
- [4] Study of Fractal Behaviour of Target Fragments in  $^{28}\text{Si}$  and  $^{32}\text{S}$ -Emulsion collisions at 14.6 and 200AGeV.  
**Mir Hashim Rasool**, M. Ayaz Ahmad and Shafiq Ahmad.  
XX DAE- BRNS High Energy Physics Symposium Department of Physics, Visva-Bharati, Santiniketan, Kolkata, India. 13-18 January, 2013.
- [5] Angular and Pseudo-rapidity Distributions of Relativistic Charged Particles Produced in the Interactions of  $^{32}\text{S}$ -Em at 200A GeV  
**Mir Hashim Rasool**, Mohammad Ayaz Ahmad and Shafiq Ahmad  
International Symposium on Nuclear Physics Bhabha Atomic Research Centre, Mumbai-400085, India.2-6Dec. 2013
- [6] Some Features of Levy Stability Related to Intermittency in  $^{32}\text{S}$ -Emulsion Collisions at 200AGeV/c.  
**Mir Hashim Rasool**, Mohammad Ayaz Ahmad and Shafiq Ahmad  
International Conference on Matter at Extreme Conditions: Then & Now held on Bose Institute Kolkata, India.15-17 January, 2014.
- [7] Levy Stability Related to Intermittency in  $^{32}\text{S}$ -Em Interactions at SPS Energies.  
**Mir Hashim Rasool**, Shafiq Ahmad, M Ayaz  
International School of Subnuclear Physics, 52 Course: Status of Theoretical
- [8]



Understanding and of Experimental Power for LHC Physics Beyond, Erice, Sicily, Italy. 24 June to 3 July 2014. Multiplicity Characteristics of Forward-Backward Emitted Particles in Heavy-Ion

Interactions at SPS Energies.

**Mir Hashim Rasool**, Mohammad Ayaz Ahmad, Muzamil Ahmad, Omveer and Shafiq Ahmad

XXI DAE-BRNS High Energy Physics Symposium Indian Institute of Technology, Guwahati, India. 8-12 Dec. 2014.

[9]

Intermittency and Multiplicity Moments of Relativistic Charged Particles Produced in  $^{32}\text{S}$ - Em Interactions at 200 AGeV/c.

**Mir Hashim Rasool**, M. Ayaz Ahmad, Shafiq Ahmad, Muzamil Bhat and Omveer  
7th International Conference on Physics and Astrophysics of Quark Gluon Plasma (ICPAQGP-2015), Variable Energy Cyclotron Centre (VECC). 1-6 Feb. 2015.

[10]

Evidence of Intermittent Fluctuations of Relativistic Charged Particles Produced in  $^{32}\text{S}$ -AgBr Interactions at 200 AGeV.

**Mir Hashim Rasool**, Ishfaq Majeed and Shafiq Ahmad

[11]

National Conference on Recent Trends in Nuclear Physics; Department of Physics, Aligarh Muslim University, Aligarh. Feb. 15-16 2016.

Non - Statistical Fluctuations in Single Particle Density Distribution at CERN SPS Energies.

Mir Hashim Rasool, M. Ayaz Ahmad and Shafiq Ahmad

[12]

Accepted for poster presentation in XXII DAE-BRNS High Energy Physics Symposium Dec. 12-16, 2016 at University of Delhi.

Multifractal Analysis of Multiplicity Fluctuations in  $^{32}\text{S}$  – AgBr Interactions at 200 AGeV.

Mir Hashim Rasool, M. Ayaz Ahmad and Shafiq Ahmad

International Symposium on Nuclear Physics Bhabha Atomic Research Centre, Mumbai-400085, India. 10 -14 Dec. 2018.

## Books/Book Chapters

[1] Chapter 10: Multiplicity Characteristics of Forward-Backward Emitted Particles in Heavy-Ion Interactions at SPS Energies.

**Mir Hashim Rasool**, M. Ayaz Ahmad, Shafiq Ahmad, Muzamil Bhat and Omveer

*Springer Proceeding Physics Book. 174, 61(2016).*

## Workshops/Refresher/Orientation/Training Schools attended:

- [1] Attended International School of Subnuclear Physics, 52 Course: Status of Theoretical Understanding and of Experimental Power for LHC Physics and Beyond, Erice, Sicily, Italy. 24 June to 3 July 2014.  
Also presented a poster entitled “Some Features of Levy Stability Related to Intermittency in  $^{32}\text{S}$ -Em Collisions at 200 AGeV/c”.  
And also been a **Scientific Secretary** for Professor **Sergio Bertolucci** Lecture.
- [2] Attended the 2<sup>nd</sup> DST-SERC School on Nuclear Matter Under Extreme Conditions from January 7-25, 2013 at Variable Energy Cyclotron Centre, Department of Atomic Energy, Sector-I, Block-AF, Bidhan Nagar, Kolkata-700 064, India.
- [3] Attended a National Seminar on “Contemporary Trends in Nuclear Physics” October 20-21, 2010 at Department of Physics, AMU, Aligarh. U.P, 202 002, India.
- [4] Attended a Workshop on “The Frontiers of Nuclear and Particle Physics” March 19-20, 2012 at Department of Physics, AMU, Aligarh. U.P, 202 002, India.
- [5] Participated in a condensed course on “ Atomic and Molecular Radiation Physics: Astronomy to Biomedicine and Workshop on “Superstructure and R – Matrix Codes” Feb. 10 to 11 March 2014 at Department of Physics, AMU, Aligarh. U.P, 202 002, India.
- [6] Attended the Author Workshop on “Scholarly Writing & Intellectual Ethics” jointly organized by *Islamic University of Science & Technology & Elsevier* October 26th, 2017
- [7] Participated in Author Workshop on “ How to write and publish scientific articles and Manuscripts on 15<sup>th</sup> December 2017 at Islamic University of Science and Technology, Awantipora, Kashmir
- [8] Attended a two-day workshop on “Scientific and Technical Documentation Using Latex” from 21<sup>st</sup> to 22<sup>nd</sup> of December 2017, organized by the Department of Electrical Engineering at Islamic University of Science and Technology, Awantipora, Kashmir.
- [9] Participated in the three days workshop on “A Roadmap to Growth of Teaching, Learning and Research” organized by Department of Management Studies, Islamic University of Science and Technology, Awantipora in association with IIT Roorkee from 16<sup>th</sup> to 18<sup>th</sup> August-2018.
- [10] Participated in one Week workshop on FPGA Programming in Power and Control Applications from September 10 - 14, 2018 organized by the Department of Electrical Engineering at Islamic University of Science and Technology, Awantipora, Kashmir.

- [11] Participated in two day workshop on Nano-Science-Opportunities and Challenges from 04-05 Sept., 2018 Organised by Departments of Physics and Chemistry IUST, Awantipora
- [12] Participated in one week Faculty Development Programme on Emerging trends in Physical, Chemical and Mathematical Sciences from 14-20 Feb., 2019 Organised by Departments of Physics, Chemistry and Mathematical Sciences, IUST, Awantipora.
- [13] Participated in One week Summer School on Quantum Mechanics from July 29-04 Aug., 2019 Organised by Departments of Physics, IUST, Awantipora.
- [14] Participated in the 30<sup>th</sup> Orientation Course held from 28<sup>th</sup> July – 17<sup>th</sup> August, 2020 conducted by UGC, HRDC, Mizoram University.

### **Conferences/ Workshops/Schools Conducted :**

- [1] Conducted a two day workshop on Nano-Science-Opportunities and Challenges from 04-05 Sept., 2018 as **Organising Committee member**.
- [2] Conducted a one week Faculty Development Programme on Emerging trends in Physical, Chemical and Mathematical Sciences from 14-20 Feb., 2019 as **Organising Secretary**.
- [3] Conducted a One week Summer School on Quantum Mechanics from July 29-04 Aug., 2019 as **Organising Committee member**.

Dated: 01-11-2021.

**Dr. Mir Hashim Rasool**