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# Noushad Ali Malawat

Pondicherry University

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## About Me

MSc Physics student at Pondicherry University with a background in nuclear physics through theoretical and data-analysis-based research, and hands-on experimental experience in spectroscopy and materials characterization. Co-author of a conference paper published in the Proceedings of the DAE Symposium on Nuclear Physics (2026) on compound nucleus decay analysis, involving statistical interpretation of decay characteristics.

Research experience at Bhabha Atomic Research Centre (high-pressure Raman spectroscopy), Indian Institute of Astrophysics (stellar spectroscopy and data analysis), and IIT Tirupati (XRD and electrochemical characterization of energy materials).

My research interests include nuclear structure and decay of compound nuclei, reaction dynamics and statistical models of nuclear processes, and accelerator physics, particularly the interaction of beams with matter and related instrumentation concepts. I am also interested in applying spectroscopy-based experimental techniques to problems in nuclear, condensed matter, and astrophysical physics, with an emphasis on data analysis and physical interpretation. Seeking PhD training aligned with these areas.

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## Experience

1. Indian Institute of Astrophysics (IIA) 22 Dec 2025 – 09 Jan 2026  
Vainu Bappu Observatory (VBO), Kavalur, Tamil Nadu, India
    - Estimating stellar parameters of bright stars using low-resolution spectra
  2. Bhabha Atomic Research Center (BARC), 08 May - 30 June 2025  
HP & SRPD • Mumbai, Maharashtra, India
    - A vibrational analysis of compound SrCO<sub>3</sub> under high pressure
  3. Indian Institute of Technology (IIT) Tirupati, 15 May – 12 July 2024  
Andhra Pradesh, India
    - Nickel–Cobalt Hydroxide based supercapacitor :- Synthesis, characterization and electrochemical evolution
  4. B.K. Birla college Kalyan March 2024  
Mumbai University • Kalyan, Maharashtra, India
    - Alcohol based thermometer, which is used in polar regions
  5. B.K. Birla College Kalyan October 2023  
Mumbai University • Kalyan, Maharashtra, India
    - Distance Measuring Device Using Lasers
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## Workshop and Conferences

- The 69th DAE Symposium on Nuclear Physics (08–12 December 2025)  
Organized by the Board of Research in Nuclear Sciences (BRNS), Government of India, held at the National Institute of Technology (NIT) Jalandhar, Punjab, India

- 11<sup>th</sup> Aditya -L1 Support Cell Workshop (06-08 Oct 2025)  
Organized by the Department of Physics, Pondicherry University, Puducherry, in association with Indian Space Research Organisation (ISRO), Bangalore & Aryabhata Research Institute of Observational Sciences (ARIES), Nainital
  - National Workshop on Advances in Nuclear Energy for Sustainable Environment (NWANESE-2025)  
Pondicherry University, Puducherry, in Collaboration with the Department of Atomic Energy, Indira Gandhi Centre for Atomic Research (IGCAR), GOVERNMENT OF INDIA
  - Summer School on Nuclear Physics (5-11 July 2025)  
Ibrahim Mirza,  
University of Tennessee, USA
  - Summer Conference on High Energy Physics and Astrophysics Ninth Edition (10-11 May 2025)  
Ibrahim Mirza,  
University of Tennessee, USA
  - Workshop on astrophysical dust ices insights from recent telescopes (10 March 2025)  
Physical Research Laboratory, Ahmedabad, India
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## Publications

- Navjot Kaur, Noushad Ali Malawat, Rupinder Kaur, Sukhjeet Singh, and Birbikram Singh.  
Comparative decay analysis of compound nuclei  $^{24-27}\text{Mg}^*$  and  $^{244-247}\text{Cm}^*$  formed in  $^{12-15}\text{C}$  induced reactions.  
Proceedings of the DAE Symposium on Nuclear Physics, Vol. 69, 2025. (*Presented*)
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## Activities

- PRAVAH 2022-2023 (Intra-college competition)  
2<sup>nd</sup> position in the science exhibition.
  - National Science Day (Intra-college competition) Organized by Science Association 2022-2023  
1<sup>st</sup> position in the project demonstration of laser show devices
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## Presentation

- Nuclear Fusion -: An application of quantum tunneling  
(Summer school on nuclear physics 5-11 July 2025)
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## Education

MSc (Physics) {pursuing}	05/2026
Pondicherry University • Kalapet, Puducherry, India	
BSc (Physics) {9.3/10 CGPA}	05/2024
B.K. Birla College Kalyan, Mumbai University • Kalyan, Maharashtra, India	
HSC (12th) —RBSE {95.80 %}	05/2021
Marwar Montessori Senior Secondary School • Makrana, Rajasthan, India	

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## Skills

- Python, Forton, Overleaf (LaTeX)
  - Raman Spectroscopy (Under high pressure), Electrochemical Workstation (performed Cyclic Voltammetry and Galvanostatic Charge – Discharge), Bentch Top X-Ray Diffraction, Telescope (Handled STAR TRACKER 150/750 EQ Reflector Telescope), and basic electronic equipment
  - Origin, PeakFit
  - Good Communication skills, Analytic Thinking, and Team leading
  - English, Hindi, Marwari, Urdu
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## Extra-curricular activities

- National Science Day (Intra-college competition) Organized by Science Association 2022-2023,  
1st prize in the scientific rangoli competition
  - Umesh Sir's Training center (Monthly competition),  
1st prize in Skit - War
  - Organized National Science Day in the Physics Department,  
B.K. Birla College, Kalyan, Mumbai University
  - Active member of Pondicherry University and B.K. Birla Astronomy Club
  - Writing poetry in Urdu and managing a social media channel to share it
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