



Dr. Ashish M. Desai

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Nationality: Indian

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Education:

- Ph. D. Physics (Experimental Neutron Physics), University of Rhode Island, U.S.A.
- Master of Science in Physics, Bhavan's College, University of Mumbai.
- Bachelor of Science in Physics, Bhavan's College, University of Mumbai.

Research Interest:

Experimental Neutron Physics, Computational Quantum Mechanics and Computational Material Science.

Teaching Experience:

Assistant Professor since June 2013 at the Department of Physics, Parvatibai Chowgule College, Goa.

Courses taught: Modern Physics, Quantum Mechanics, Nuclear Physics, Atomic and Molecular Physics, Solid State Physics, Introduction to Mathematical Physics and Thermodynamics and Statistical Mechanics.

Publications:

- O. Shilkar, R. P. Adhikari, S. Sappati, S. Godi and A. M. Desai. (2023). A first-principles study of electronic and magnetic properties of 4d transition metals doped in Wurtzite GaN for spintronics applications. *Journal of Molecular Modeling*, **29**, 200.
- S. U. Lotliker, R. Samant, N. Mesquita, D. Liu and A. M. Desai. (2023). Accuracy of the new modified Morse potential energy function for ground and excited states of diatomic molecules. *Physics Open*, **16**, 100159.
- R. Samant, S. U. Lotliker and A. M. Desai. (2023). Comments on the paper 'Comparison study of bound states for diatomic molecules using Kratzer, Morse, and modified Morse potentials'. *Physica Scripta*, **98**, 027002.
- A. M. Desai, N. Mesquita and V. Fernandes. (2020). A new modified Morse potential energy function for diatomic molecules. *Physica Scripta*, **95**, 8.
- A. M. Desai, Rajendra Adhikari and Vijay Peddasingh. (2018). "Teaching One Dimensional Time Independent Schrodinger Equation using Spreadsheet". In S. Ladage & S. Narvekar (Eds.), *Proceedings of epiSTEME 7 – International Conference to Review Research on Science, Technology and Mathematics Education*, p. 383 – 391. India: Cinnamon Teal.
- A. M. Desai, A. Strelkov, S. S. Malik and A. Steyerl. (2015). Measurement of the Neutron Lifetime in the "Accordion-like" Storage Trap. *Proceedings of the DAE-BRNS Symp. on Nucl. Phys.* **60**.
- A. Steyerl, C. Kaufman, G. Muller, S. S. Malik and A. M. Desai. (2014). Geometric phases in electric dipole searches with spin-1/2 particles from spin dependent Schrödinger equation. *Phys. Rev. A*, **89** 052129.
- A. Steyerl, C. Kaufman, G. Müller, S. S. Malik, and A. M. Desai. (2014). Spin-flip loss in magnetic storage of ultracold neutrons. In *Next Generation Experiments to Measure the Neutron Lifetime*, S. J. Seestrom (Ed.), pp. 75-86, World Scientific Publishing. [arXiv:1307.5207]
- A. Steyerl, C. Kaufman, G. Muller, S. S. Malik and A. M. Desai. (2012). Ultracold Neutron Depolarization in Magnetic Bottles. *Phys. Rev. C* **86**, 065501.
- A. Steyerl, J. M. Pendlebury, C. Kaufman, S. S. Malik, and A. M. Desai. (2012). Quasi-elastic scattering in ultracold neutron interaction with a liquid wall and application in a re-analysis of the Mambo I neutron lifetime experiment. *Phys. Rev. C* **85**, 065503 (2012).

- A. Steyerl, S. S. Malik, A. M. Desai and C. Kaufman. (2010). Surface roughness effect on ultracold neutron interaction with a wall and implications for computer simulations. *Phys. Rev. C* **81**, 055504 (2010).

Journal Reviewer:

- Physica Scripta, IOP Science
- International Journal of Quantum Chemistry, Wiley
- International Journal of Nanoscience and Nanotechnology, Iranian Nanotechnology Society

Awards:

Awarded Best Poster Presentation for the poster entitled “Numerically solving Double potential well using Eight order Numerov method” in the International Conference on “Functional Materials and Simulation Techniques” jointly organized by Chandigarh University, University of Mauritius, Mauritius and Concordia University, Canada held on 7th and 8th June 2019 at Chandigarh University.