

Name: Dr.Manpreet Kaur

Designation: Assistant Professor

Specialization: Theoretical Nuclear Physics

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Education

M.Sc. Physics (Hons. School) (2008, Panjab University, Chandigarh),

National Eligibility Test (NET)-2018

Ph.D. (February, 2014, Thapar University, Patiala)

Title of Ph. D Thesis: Decay of hot and rotating nuclei formed in heavy ion reactions at low energies.

Professional Experience:

Department of Physics, Multani Mal Modi College, Patiala India (11 August 2018 to till date)

Department of Physics, Khalsa college, Patiala India (01 July, 2014 to 25 May, 2018)

Teaching Interests:

Nuclear Physics, Nuclear and Particle Physics, Statistical and Thermal Physics

Research Interest:

Heavy ion reactions, Fission, Fusion, Decay study of Compound Nucleus

Publications

1. **Manpreet Kaur**, Mahesh K. Sharma and Manoj K. Sharma, Analysis of fragment distribution and associated effects in $^{12,13}\text{C}$ induced reactions, Int. J. Mod. Phys. E 23, no.5, 1450030 (2014).
<https://doi.org/10.1142/S021830131450030X>
2. **Manpreet Kaur** and Manoj K. Sharma, Dynamics of $^{58}\text{Ni} + ^{54}\text{Fe} \rightarrow ^{112}\text{Xe}^*$ reaction across the Coulomb barrier, Eur. Phys. J. A 50, 61 (2014).
<https://doi.org/10.1140/epja/i2014-14061-6>

3. **Manpreet Kaur**, Manoj. K. Sharma, Raj K. Gupta Effects of deformations and orientations in the fission of actinide nuclear system $^{254}\text{Fm}^*$ formed in $^{11}\text{B} + ^{243}\text{Am}$ reaction, **Physical Review C** 86, 064610(2012).
<https://doi.org/10.1103/PhysRevC.86.064610>
4. **Manpreet Kaur**, Raj Kumar, Manoj K. Sharma, Systematic study of the decay of $^{118,122}\text{Ba}^*$ formed in $^{78,82}\text{Kr}$ -induced reactions at $E_{\text{lab}} = 5.5$ MeV/nucleon, , **Physical Review C** 85, 014609, (2012).
<https://doi.org/10.1103/PhysRevC.85.014609>
5. **Manpreet Kaur**, Manoj K. Sharma, Decay mechanism of the $^{204}\text{Po}^*$ nucleus formed in ^{16}O and ^{28}Si induced reactions, **Physical Review C** 85, 054605, (2012).
<https://doi.org/10.1103/PhysRevC.85.054605>

Conference / Seminars/Webinars (Presented/Attended)

1. **Manpreet Kaur**, Participated in National Webinar on "Recent Advances in Material Sciences and Nano-technology" organized by Department of Physics, Ch. Chhotu Ram (PG) College Muzaffarnagar, U.P on October 1st, 2020.
2. **Manpreet Kaur**, Attended One Day National Webinar on the theme "Hind Di Chadar: Sri Guru Teg Bahadur" organized by Sri Guru Teg Bahadur National Integration Chair, Punjabi University Patiala on August 26, 2020.
3. **Manpreet Kaur**, Attended National Webinar "Frontiers of Science and Technology in Defence" organized by Department of Physics, Khalsa college Patiala on August 7, 2020.
4. **Manpreet Kaur**, Attended Webinar on "Semiconductor Lasers: A versatile platform for coherent optical sources" organised by Department of Physics, Bengaluru North University, Sri Devaraj Urs Extension Tamaka, Kolar on July 20, 2020.
5. **Manpreet Kaur**, Participated in One day National Webinar on " The social and religious context of the martyrdom of sri Guru Teg Bahadur Ji" organized by Multani Mal Modi College Patiala on July 16, 2020.

6. **Manpreet Kaur**, Participated in Webinar on " Nanotechnology: A Multidisciplinary Technology of 21st century" organized by Department of Physics, S. D. College, Barnala on 10th July, 2020.
7. **Manpreet Kaur**, Participated in two days National Webinar, Organized by Department of Physics, SSCASC Tumkur, in association with Rc-12A Indian Association of Physics Teachers, Karnataka Region on 9th and 10th July, 2020.
8. **Manpreet Kaur**, Participated in two day international Webinar on "Artificial intelligence and Machine Learning" organized by Department of Computer Science, Baba Farid College, Bathinda on 7th and 8th July, 2020.
9. **Manpreet Kaur**, Participated in "National Capability Enhancement Conference: Education for Meaningful Life Part-3" organized by Punjab Commerce and Management Association on July 2, 2020.
10. **Manpreet Kaur**, Participated in International Virtual conference on " Advanced Materials for Energy and Environmental Applications (ICAMEEA-2020)" organized by International Relationship Centre, Bharathidasan University, Tiruchirappalli, Tamil Nadu on 26th and 27th June 2020.
11. **Manpreet Kaur**, Participated in the National Webinar on " Fluid Dynamics" organized by the Department of Mathematics and Statistics, School of Basic Sciences, Manipal University Jaipur on June 23rd 2020.
12. **Manpreet Kaur**, Participated in the Physics Webinar "Extension of modern periodic table towards superheavy Metals-Indian Perspective " organized by Smt Danamma Channabasaviah College of Arts Commerce Science and Management studies, Kodiramasandra, Kolar on 17.06.2020
13. **Manpreet Kaur**, Participated in International Webinar on: Challenges and Prospects for teachers and students" organized by Department of Commerce and Management, Guru Nanak College, Budhlada on 15th June, 2020.
14. **Manpreet Kaur**, Participated in International Virtual conference on " Role of Technology in the Era of Covid-19 for Education organized by USERC, Department of Science and Technology, Government of Utrakhand on June 7 to June 8, 2020.

15. **Manpreet Kaur**, Participated in One Day International Virtual conference " Novel Corona and Novel Challenges : Life ahead with Covid-19 organized by Sri Guru Gobind Singh College, Sector-26, Chandigarh on June 3, 2020.
16. **Manpreet Kaur**, Participated in One day Webinar on " The how? and Why? Of transitioning to Data Science, for non IT Professionals" organized by Cambridge Institute of Technology, Bengaluru on 30th May, 2020.
17. **Manpreet Kaur**, Kavita, Pooja Rani, Kanandeep, Palvinder Kaur, Decay of medium mass compound system formed in alpha -induced reactions, UGC Sponsored 10th National Conference on "Recent Advances in Chemical And Environmental Sciences" organized by Multani Mal Modi College, Patiala, (April 11th -12th, 2019)(Abstract book page no.117).
18. Pooja Rani, Kavita, **Manpreet Kaur**, Palwinder Kaur, Kanandeep, DFT Study of Electronic Properties of Toluene adsorbed on Na-Graphene Interface UGC Sponsored 10th National Conference on "Recent Advances in Chemical and Environmental Sciences" organized by Multani Mal Modi College, Patiala, (April 11th -12th, 2019)(Abstract book page no.118).
19. Palvinder Kaur, Pooja Rani, **Manpreet Kaur**, Kanandeep, Kavita Semiconductor nanocrystals (ncs) and quantum confinement, UGC Sponsored 10th National Conference on "Recent Advances in Chemical and Environmental Sciences" organized by Multani Mal Modi College, Patiala, (April 11th -12th, 2019) (Abstract book page no.119).
20. **Manpreet Kaur**, attended 62th DAE-BRNS Symposium on Nuclear Physics, sponsored by Board of Research in Nuclear Sciences and organized at Thapar Institute of Engineering & Technology (Deemed University), Patiala, from December 20-24, 2017.
21. **Manpreet Kaur**, Decay of hot and rotating nuclei formed in heavy ion reactions at low energies, Proceedings of the DAE Symp. on Nucl. Phys. 58, 1018 (2013) <http://inspirehep.net/record/1506998/files/T8.pdf>
22. **Manpreet Kaur** and Manoj K. Sharma, Possible decay mechanisms of ²²⁰Ra formed in carbon induced reaction, AIP conf. Proc. 1524, 151 (2013) <https://doi.org/10.1063/1.4801700> .

- 23. Manpreet Kaur**, Manoj K Sharma, Analysis of ER and fission in decay of ^{210}Rn formed in $^{16}\text{O} + ^{194}\text{Pt}$ reaction, DAE Nucl. Phys. Symp. BARC, Mumbai, Vol.58, 440 (2013). <http://www.symnpn.org/proceedings/>
- 24. Manpreet Kaur**, Manoj K Sharma, Role of diffuseness coefficient in reaction dynamics using collective clusterization method, DAE Nucl. Phys. Symp. BARC, Mumbai, Vol.58, 442 (2013). <http://inspirehep.net/record/1506726/files/B67.pdf>
- 25. Manpreet Kaur**, Manoj K Sharma, Contribution of incomplete fusion cross sections in $^{13}\text{C} + ^{207}\text{Pb}$ reaction, Punjab Science Congress, Baba Farid University of Health Sciences, Faridkot, February 7-9, (2013).
- 26. Manpreet Kaur**, Attended 23rd Annual General Meeting AGM-MRSI (Functional Materials for sustainable Energy and Advanced Technologies) held at Thapar University, Patiala jointly organized by Thapar University, Patiala and Material Research Society of India (MRSI), during February 13-15, (2012).
- 27. Manpreet Kaur**, Manoj K Sharma, Decay of $^{254}\text{Fm}^*$ nucleus formed in $^{11}\text{B} + ^{243}\text{Am}$ reaction, DAE Nucl. Phys. Symp., Delhi University, Delhi, Vol. 57, 426 (2012). <http://inspirehep.net/record/1428854/files/B19.pdf>
- 28. Manpreet Kaur**, Manoj K Sharma, Fusion-fission and related aspects of ^{204}Po formed in heavy ion reactions, DAE Nucl. Phys. Symp., Andhra University, Vishakhapatnam, Vol.56, 476, (2011). <http://inspirehep.net/record/1505997/files/B12.pdf>
- 29. Manpreet Kaur**, Raj Kumar, Manoj K Sharma, Decay of $^{118,122}\text{Ba}$ formed in $^{78,82}\text{Kr} + ^{40}\text{Ca}$ reactions at beam energy 5.5 MeV/A, , DAE Nucl. Phys. Symp., Andhra University, Vishakhapatnam, Vol.56, 514, (2011). <https://www.osti.gov/etdeweb/biblio/21577491>
- 30. Manpreet Kaur**, Manoj K Sharma, Decay of ^{204}Po nucleus formed in ^{16}O and ^{28}Si induced reaction, DAE Nucl. Phys. Symp., BITS Pilani, Vol.55, 384, (2010). <http://inspirehep.net/record/1428396/files/B80.pdf>

Workshops and Training Courses

1. Attended Five Day Online Lecture Series organized by P. G. Department of Physics, Khalsa College, Patiala from December 22 to December 26, 2020.

2. Participated in the course Classical Electromagnetism-I by centre for continuing Education, IIT Kanpur from August 15 to December 13, 2020.
3. Completed a 4-Week Induction/ Orientation Programme for Faculty in Universities/ Colleges/Institutes of Higher Education organized by Ramanujan College, University of Delhi from June 26 to July 24, 2020.
4. Participated in National Level Five Day Faculty Development Program on "Scilab" in association with IIT Bombay, organized by Department of Science and Humanities, St. Peter's Engineering College, Hyderabad on 15th to 19th June, 2020.
5. Completed the course " Advanced Course on Special Theory of Relativity" from Centre for continuing education, IIT Kanpur from January 26 to May 19, 2020.
6. Completed the course " Learning Physics Through Simple Experiments" from Centre for continuing education, IIT Kanpur from April 2 to June 10, 2020.
7. Participated in Science Leadership Workshop organized by Central University of Punjab, Bathinda from June 22nd to June 28, 2020.
8. Participated in One day Online Capacity Building Programme on Basic Tools and techniques for online teaching, organized by UGC- HRDG and Centre for E- learning and Teaching Excellence, Punjabi University Patiala on 9th August, 2020.
9. Attended, One week Faculty Development Program on" Advancement in Science and its Applications in Engineering" organized by Department of Science and Humanities, Hyderabad Institute of Technology and Management, Medchal Hyderabad from 22nd June to 26th June 2020.
10. Completed, Two days online National Faculty Development Program on " Designing and Implementation of Outcome Based Education (OBE) Model " Conducted by Department of Physics, Shri Muktanand College, Gangapur, Aurangabad in collaboration with IQAC, Dr. Babasaheb Ambedkar Marathwada University held on 7th and 8th July, 2020.
11. Participated in "An online training program for CSIR NET program Exam in Physical Sciences: organized by PG & research department of Physics, Bishop Heber College, Tiruchirappalli, Tamil Nadu from 2nd to 5th June, 2020.
12. Attended National workshop on "Research Methodology in Physical Sciences" at Khalsa College, Patiala. (15 February, 2020).

13. Attended Faculty Development Program on “Emerging Issues & Challenges in Higher Education” at Multani Mal Modi College, Patiala. (17-22 July, 2019).
14. Attended one day workshop on “Computer Interfaced Science Experiments for Physics Teachers and Engineers” at Khalsa College Patiala. (22 December,2017).
15. Certificate awarded from the National Institute of Technical Teacher Training and Research sponsored by MHRD/AICTE for attending the winter school at Swami Vivekananda Institute of Emerging Technology, Banur from 22/12/2008 to 27/12/2008.

Achievements, Awards and Recognitions

1. Organizing Physics Quiz and Poster Making Competition to celebrate National Science Day at M.M.Modi College, Patiala since 2019.
2. Successfully organised National Seminar on September 26-27, 2019 on ‘Popularization of Physical Sciences’ under aegis of Silver Jubilee celebrations of International Academy of Physical Sciences (IAPS), Allahabad, India at M.M.Modi College, Patiala.
3. Awarded Certificate of Appreciation for participating in SCI FEST 2019 held at Thapar Institute of Engineering & Technology (Deemed to be University), Patiala, Punjab on 21st February 2019.
4. Awarded UGC Research Fellowship in Science for Meritorious Students in Ph.D.