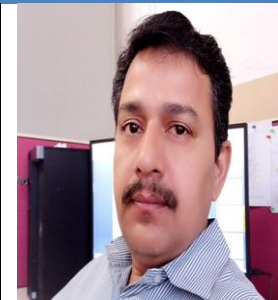


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| <b>Specialisation:</b>   | Theoretical Nuclear Physics   |   |
| <b>Research Interest:</b>  | Low energy heavy-ion reactions  |   |
| <b>Books and Book Chapters</b>   |   |   |
| <ol style="list-style-type: none"> <li>Handbook of Materials Characterization, Surender Kumar Sharma, <b>Dalip Singh Verma</b>, Latif Ullah Khan, Shalendra Kumar and Sher Bahadar Khan, ISBN 978-3-319-92954-5, ISBN 978-3-319-92955-2 (eBook) <a href="https://doi.org/10.1007/978-3-319-92955-2">https://doi.org/10.1007/978-3-319-92955-2</a></li> <li>Review of quantum physics and atomic theory, <b>Dalip Singh Verma</b>, Jagdish Kumar and Pooja Chauhan, Modern Luminescence from Fundamental Concepts to Materials and Applications, Volume 1: Concepts of Luminescence, Woodhead Publishing publications (Elsevier), ISBN: 978-0-323-89954-3 (print) ISBN: 978-0-323-98470-6 (online). <a href="https://doi.org/10.1016/B978-0-323-89954-3.00006-5">https://doi.org/10.1016/B978-0-323-89954-3.00006-5</a></li> <li>Quantum theory of many electron atoms and energy levels, Jagdish Kumar, Pooja Chauhan and <b>Dalip Singh Verma</b>, Modern Luminescence from Fundamental Concepts to Materials and Applications Volume 1: Concepts of Luminescence, Woodhead Publishing publications (Elsevier), ISBN: 978-0-323-89954-3 (print) ISBN: 978-0-323-98470-6 (online). <a href="https://doi.org/10.1016/B978-0-323-89954-3.00008-9">https://doi.org/10.1016/B978-0-323-89954-3.00008-9</a></li> <li>Scopes of laser in spectroscopy, <b>Dalip Singh Verma</b>, Navadeep Shrivastava and Surender Kumar Sharma, Modern Luminescence from Fundamental Concepts to Materials and Applications Volume 1: Concepts of Luminescence, Woodhead Publishing publications (Elsevier), ISBN: 978-0-323-89954-3 (print) ISBN: 978-0-323-98470-6 (online). <a href="https://doi.org/10.1016/B978-0-323-89954-3.00007-7">https://doi.org/10.1016/B978-0-323-89954-3.00007-7</a></li> </ol> |   |   |
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|---|-----------------------|---------------|
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| 6. Fusion Enhancement for <sup>8</sup> B and <sup>58</sup> Ni, Near and Below the Coulomb Barrier   | Anjali Thakur         | CUHP12PAS03   |
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| 17. Fusion-evaporation and fusion-fission events in decay of hot and rotating CN formed in reaction <sup>48</sup> Ti+ <sup>40</sup> Ca→ <sup>88</sup> Mg* using DCM and evaluate the effect of neck length parameter ( $\Delta R$ ) | Neha Dhiman           | CUHP15PGPAS13 |
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| 20. The effect of deformation and orientation on potential energy surfaces and preformation probabilities in the decay of compound system $^{202}\text{Po}^*$  | Ravi Thakur                                     | CUHP16PGPAS16  |
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| 28. Decay of hot and rotating compound systems formed in $^{48}\text{Ca} + ^{162}\text{Dy}$ and $^{48}\text{Ca} + ^{165}\text{Ho}$ reactions   | Vikas Thakur                                    | CUHP18PGPAS27  |
| 29. Role of angular momentum and excitation energy on the intrinsic fusion and symmetric barriers  | Umesh Kumar                                     | CUHP19PGPAS24  |
| 30. Enhanced fission barrier for $N=Z$ colliding nuclei using Semi-classical Extended Thomas Fermi approach of Skyrme Energy density formalism   | Diksha Pagotra                                  | CUHP19PGPAS28  |
| 31. Comparison of different Proximity Potentials   | Priyanka  | CUHP19PGPAS31  |
| 32. Comparison of different proximity potentials   | Vishali   | CUHP19PGPAS25  |
| 33. Optimum excitation energy and angular momentum for fusion of $^{40}\text{Ar} + ^{110}\text{Pd}$ using intrinsic fusion and symmetric fission barriers analysis   | Rajesh Kumar                                    | CUHP20PGPAS22  |
| 34. Angular momentum and incident energy correlation to the yield of compound nucleus formed in $^7\text{Li} + ^{89}\text{Y} \rightarrow ^{96}\text{Mo}^*$ reaction.   | Tanuj Chauhan                                   | CUHP20PGPAS32  |
| <b>M.Phil./Ph.D. Supervised/Supervising:</b>   | 01 Ph.D. (Supervised),<br>02 Ph.D.(supervising) |                |
| <b>Participation in Seminars/Conferences/workshop/invited talk etc.</b>  |   |                |
| <ol style="list-style-type: none"> <li>Two days workshop on “Indian Mathematics” organized by Department of Mathematics, CUHP, during September 13-14, 2019.</li> <li>National Workshop on “In Silico Approach for Modelling New Materials: Methodology &amp; applications” organized by DPAS, CUHP during 14<sup>th</sup> – 20<sup>th</sup> January, 2019.</li> <li>Resource Person for the Project evaluation in 26<sup>th</sup> state level Himachal Pradesh Children Science Congress-2018, during 9<sup>th</sup> – 12<sup>th</sup> October, 2018.</li> <li>XXII National Symposium (NSU-2017) on “Advances in Ultrasonics and Materials Research”, held during November 8-10, 2017, organised by Department of Physics and Astronomical Science and Ultrasonic Society of India.</li> <li>School on “Gravitation and Astroparticle Physics”, organized by CUHP and IUCAA, Pune, from 29-02-2016 to 12-03-2016.</li> </ol> |   |                |



6. Three days workshop on “Computerisation Experiments in Physics” organized jointly by CUHP and IUAC, New Delhi, from 17<sup>th</sup> to 19<sup>th</sup> March, 2016.
7. One Week Faculty Development Programme on “Emerging Trends of ICT in Higher Education” from 9<sup>th</sup> -15<sup>th</sup> June, 2016.
8. Two day workshop on “Experimental Physics” held during 4<sup>th</sup> to 5<sup>th</sup> April, 2016 at Department of Physics and Astronomical Science, CUHP.
9. Two days workshop on “Recent Trends in Modern Materials”, organised by Department of Physics and Astronomical Science, CUHP during March 11-12, 2015.
10. National Conference on “Emerging Challenges in Physics & Nano Science”, during 4<sup>th</sup> March, 2015 at DAV College Dasuya, District Hoshiarpur Punjab (Invited talk).
11. Two days International Conference on “Emerging Trends in Basic and Applied Sciences” held during May 1-2, 2015, at MAU, Baddi, (H.P.)-India.
12. Invited talk on “Scientific typesetting software ‘Latex for Publications’” in One day workshop on scientific writing and presentation on 20<sup>th</sup> March, 2015 at CUHP.
13. Organised Three day workshop on “Physics Experiments Using Data Acquisition Kit EXPEYES” during 6<sup>th</sup> to 8<sup>th</sup> November, 2014 at CUHP.
14. One week Workshop on “Analytical Aspects of Dynamics”, held during 11<sup>th</sup> November, 2014 to 17<sup>th</sup> November, 2014 at CUHP.
15. One day National Workshop on “Astronomy & Astrophysics” jointly organized by NSCBM Govt. Post Graduate College Hamirpur (H.P.) and Inter-University Center for Astrophysics, Pune, Pune University, Maharashtra held on 15<sup>th</sup> October, 2012.
16. International Conference on “Recent Trends in Nuclear Physics”, held during 19-21<sup>st</sup> Nov, 2012 at CITTkara University Himachal Pradesh.
17. National workshop on “Mathematica: An integrated Environment for Computer Simulation in Physics and Mathematics” held on 28<sup>th</sup> -30<sup>th</sup> July, 2011 at Chitkara University, Himachal Pradesh.
18. DAE-BRNS Nuclear Physics Symposium held at Andhra University, Visakhapatnam, during December 26-30, 2011.
19. 11<sup>th</sup> Punjab Science congress, at Thapar University, Patiala, Feb 7-9, 2008.
20. Diamond Jubilee National Seminar on Advances in Physics, Feb 28-March 1, 2008, Department of Physics, Panjab University, Chandigarh.
21. 2<sup>nd</sup> Chandigarh Science Congress, Panjab University, Chandigarh. (India), March 14-15, (2008).
22. One day seminar on “Emerging Interactive Sciences: Road to Global Development” held at Govt. College for Girls, Sector 11, Chandigarh on August 23, 2008.
23. 1<sup>st</sup> Chandigarh Science Congress, Panjab University, Chandigarh. (India), March 10-11, (2007).
24. International Symposium on Heavy Ion Physics 2006 “ISHIP2006” Frankfurt Institute for Advanced Studies (FIAS), Johann Wolfgang Goethe-University, Frankfurt, Germany, April 3-6,

2006.

25. International Workshop on “Nuclear Structure Physics at The Extreme: New Direction” (NUSPE’05), March 21-24<sup>th</sup>, 2005, H.P. University, Shimla-5.
26. 91<sup>st</sup> Session of Indian Science Congress Association, jointly organized by Panjab University and I.M. Tech. Chandigarh, Jan. 3-7, 2004.
27. DAE-BRNS Symposium on Nucl. Phys., Dec. 6-10, 2004, at BHU, Varanasi.
28. DAE-BRNS Symposium on Nucl. Phys., Dec. 8-12, 2003, BARC, Mumbai.
29. National Level School on “Nuclear reaction and Structure Studies with Low energy Stable and Unstable Heavy ion Beams” Sept. 25-29, 2000, a joint venture of NSC, New Delhi and H.P.U. Shimla.

#### **Courses Taught**

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|--|---|
| 1. Theoretical Nuclear Physics         | 13. Elements of Modern Physics          |
| 2. Elements of Modern Physics          | 14. Accelerator and Reactor Physics     |
| 3. Nuclear and Particle Physics (PG)   | 15. Nuclear and particle Physics Lab    |
| 4. Nuclear and Particle Physics (UG)   | 16. Modern Physics Lab                  |
| 5. Analog and digital electronics      | 17. Electronics lab                     |
| 6. Analog and digital electronics lab  | 18. Advanced Modern Physics Lab         |
| 7. Semiconductor Device                | 19. Scientific Writing and Presentation |
| 8. Electronic Circuits                 | 20. Advanced Nuclear Physics            |
| 9. Atomic, Molecular and laser Physics | 21. General Physics lab                 |
| 10. Nuclear radiation and Safety       | 22. Digital Systems and Applications    |
| 11. Special functions                  | 23. Research and Publication Ethics     |
| 12. Electromagnetic Theory             | 24. Theory of Nuclear reactions         |

#### **Membership of Learned Societies/ Professional Bodies:**

1. Member Vigyan Samiti Himachal-VIGYASA

#### **Awards & Honours Received**

1. JRF and SRF under the Department of Science and Technology Projects (Dec, 2002-June, 2006 and Dec, 2006-August, 2008)
2. Research stay at Frankfurt Institute of Advance Study (1<sup>st</sup> January, 2006 to 15<sup>th</sup> April, 2006) under the Deutsche Forschungsgemeinschaft (DFG) grant Associated with Mercator Professorship.

Others:

Certification Course on the Radiation Safety Aspects in the Research Applications of Ionizing Radiation, from BARC, Mumbai-400085 (India).