Faculty Details proforma for DU Web-site

Title	Dr.	First Name	SHASHI	Last Name	VERMA	Photograph
Designation		**Assistant Professor**				
Address		Department of Physics and Asrophysics University of Delhi, Delhi-110007				
Phone No Office		+91-11-27667725				
Residence		H.No -2, Type IV, Teacher flats, Department of Social Work, University of Delhi				
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Web-Page						

Educational Qualifications

Degree	Institution	Details	Year
Ph.D.	University of Delhi	Experimental Nuclear Physics: Thesis topic : Study of Nuclear Reactions induced by Radioactive Ion Beams	2001-2007
Pre Ph. D.	Inter University Accelerator Centre (Formerly Nuclear Science Centre), New Delhi	Accelerator based Experimental Nuclear Physics techniques, Nuclear Physics Theory	2001
PG	University of Delhi, Hindu College	Physics	1999-2001
UG	University of Delhi, Gargi College	Physics (Hons)	1999
Any other qualification	NIIT, Gargi College Centre, New Delhi	Two years diploma in Network centered Computing (Professional Diploma ,2yrs)	1996-1999

Career Profile

Designation	Organisation/Institution	Role	Duration
Assistant Professor	University of Delhi	Teaching & Research	5th June 2008- till date
Post Doctorate Fellow	Universidad de Santiago de Compostela, Spain	Research	2007-2008
Senior Research Fellow, Council of Scientific and Industrial Research	University of Delhi	Research	2003-2006
Junior Research Fellow, Council of Scientific and Industrial Research	University of Delhi	Research	2001-2003

Administrative Assignments

Areas of Interest / Specialization

Experimental Nuclear Physics

- Nuclear reactions: Nuclear reactions involving Radioactive Ion Beam

  a) Influence of break-up of weakly bound nuclei (^{7}Be, ^{7}Li) on elastic and fusion reaction channels.

  b) Optical model analysis on the available ^{14}C + ^{14}C and ^{14}C + ^{12}C elastic scattering data, using both shallow and deep

potential, using modified optical model code GENOA.

- Experience with Radioactive Ion Beam facility and developing, testing of associated detector systems (Si-Surface Barrier Detectors and Gas Detectors for particle identification) for RIB experiments.
- Nuclear Spectroscopy: Beta decay half-lives and nuclear structure of heavy neutron rich nuclei produced by ^{208}Pb fragmentation. Actively involved in experiments carried at GSI, Germany during stopped beam campaign using RISING (Gamma Detector Array).

Subjects Taught

Nuclear Physics Theory
Nuclear and Particle Physics.
Quantum Physics-I, II
Experimental Nuclear Physics Laboratory
Radiation Detection & Measurement

Research Guidance

Publications Profile

1. ***Research papers published in Refereed/Peer Reviewed Journals***

1. *Role of dynamical deformation in pre-scission neutron multiplicity by Neeraj Kumar, Shabnam Mohsina, Jhilam Sadhukhan, and* ***Shashi Verma, Phys. Rev. C 96, 034614 (2017)***

2. *Relationship between and effect of inelastic excitations and transfer channels on sub-barrier fusion enhancement by Khushboo* .... S. Verma …et. al. ***Phys. Rev. C 96, 014614 (2017).***

3. *Negative-parity high- spin states and a possible magnetic rotation band in Pr7659135 by Ritika Garg* ... **S.Verma**... et. al. ***Phys. Rev. C 92, 054325 (2015)***

4. *T_z= -1 → 0 β decays of ^{54}Ni, ^{50}Fe, ^{46}Cr, and ^{42}Ti and comparison with mirror (^{3}He, t) measurements by F Molina* ... **S.Verma** ... et. al. ***Phys.Rev. C 91, 014301 (2015)***

5. *Probing nuclear dissipation via evaporation residue excitation functions for the $O^{16,18}$+Pt^{198} reactions by Rohit Sandal*... **S.Verma**... et. al. ***Phys. Rev. C 91, 044621 (2015)***

6. Hindered Gamow-Teller Decay to the Odd-Odd N=Z ^{62}Ga: Absence of Proton-Neutron T=0 Condensate in A=62 by E. Grodner...**S.Verma**... et. al. ***Phys. Rev. Lett. 113, 092501 (2014)***

7. *Half-Life Systematics across the N=126 Shell Closure: Role of First-Forbidden Transitions in the β Decay of Heavy Neutron-Rich Nuclei by* A.I.

Morales...**S.Verma**... et. al. ***Phys. Rev. Lett. 113, 022702 (2014)***

8. *The population of metastable states as a probe of relativistic-energy fragmentation reaction by A*. M. DenisBacelar...**S.Verma**... et. al. ***Phys. Lett. B 723, 302 (2013)***
9. *High spin states in $_{57}^{135}La_{78}$ by Ritika Garg ...* **S.Verma**... et. al. ***Phys.Rev. C 87, 034317 (2013)***
10. *β-delayed γ-ray spectroscopy of ^{203,204}Au and $^{200-202}$Pt Nuclei by* A.I. Morales...**S.Verma**... et. al. ***Phys.Rev. C 88, 014319 (2013)***
11. *Measurements and coupled reaction channels analysis of one- and two-proton transfer reactions for the 28Si + 90,94Zr systems by* Sunil Kalkal...**ShashiVerma**... et. al. ***Phys. Rev. C 85, 034606 (2012)***
12. *Multinucleon transfer reactions for the ^{28}Si+^{90,94}Zr systems in the region below and near the Coulomb barrier by* Sunil Kalkal...**S.Verma**... et. al. ***Phys. Rev. C 83, 054607 (2011)***
13. *Fusion and transfer reactions around the Coulomb barrier for ^{28}Si+^{90,94}Zr systems by* Sunil Kalkal...**S.Verma**... et. al. ***J.Phys.:Conf.Ser. 312, 082027 (2011)***
14. *Synthesis of N=127 isotones through (p,n) charge-exchange reactions induced by relativistic 208Pb projectiles by* A.I. Morales...**S.Verma**... et. al. ***Phys. Rev. C 84, 011601(R) (2011)***
15. *Channel coupling effects on the fusion excitation functions for ^{28}Si +^{90,94}Zr in sub- and near-barrier regions by* S. Kalkal ...**ShashiVerma**... et. al. ***Phys. Rev. C 81, 044610, (2010)***
16. *Interaction of loosely bound radioactive ^{7}Be and stable ^{7}Li with ^{9}Be by* **S. Verma** et. al. ***European Physical Journal A 44, 385–392, (2010)***
17. *Isomeric States in ^{208}Hg and ^{209}Tl Populated in Fragmentation of ^{238}U ^{209}Tl* by N. Al-Dahan ...**S.Verma**... et. al. ***Acta Phys.Pol. B40, 871 (2009)***
18. *Nuclear structure "southeast" of ^{208}Pb: Isomeric states in ^{208}Hg and ^{209}Tl* by N. Al-Dahan ...**S.Verma**... et. al. ***Phys. Rev. C 80, 061302(R), (2009)***
19. *Angular Momentum Population in Fragmentation Reactions by* A.M. Denis Bacelar...**S.Verma**... et. al. ***Acta Phys. Pol. B40, 889 (2009)***

20. *β-Delayed g-Ray spectroscopy of Heavy Neutron Rich Nuclei "South" of Lead by* A.I. Morales...**S.Verma**... et. al. ***Acta Phys. Pol. B40, 867 (2009)***
21. *Measurements of elastic scattering for ^{7}Be, ^{7}Li + ^{9}Be systems and fusion cross sections for ^{7}Li + ^{9}Be system by* **Shashi Verma** et. al. ***Eur. Phys. J. Special Topics 150, 75 (2007)***
22. *Elastic scattering and fusion cross sections for ^{7}Be, ^{7}Li + ^{27}Al systems by* K. Kalita...**S.Verma**... et. al. ***Phys. Rev. C 73, 024609, (2006)***
23. *Fission hindrance studies in ^{208}Pb : Evaporation residue cross section and spin distribution measurements by* P. D. Shidling...**S.Verma**... et. al. *Phys. Rev. C 74, 064603 (2006)*
24. *Investigation of scattering between mirror nuclei ^{7}Be and ^{7}Li by* S. Barua...**S.Verma**... et. al. ***Phys. Rev. C 72, 044602 (2005)***
25. *Optical model analysis of ^{14}C + ^{14}C elastic scattering using deep potential by* **Shashi Verma** and Raghuvir Singh. ***Eur. Phys. J. A 23, 265 (2005)***
26. *Development of high efficiency annular detector system for RIB experiments at NSC* by A. Jhingan ...**S.Verma**... et. al. ***Nucl. Ins. Meth. A539, 269 (2005)***.
27. *Development of a large area telescopic detector system for elastic scattering and transfer reaction angular distribution measurements* by K. Kalita ...**S.Verma**... et. al. ***Indian Jour. of Pure and Applied Physics 43, 567-572, (2005)***.
28. *Study of elastic scattering of mirror nuclei ^{7}Be + ^{7}Li by S. Barua ...***S.Verma**... *et. al.* ***Nucl. Phys. A746, 467c, (2004)***

2.

a) *Research papers published in Refereed/Peer Reviewed Conferences*

<u>International Conferences Published</u>

1. *Effect of shell structure on neutron multiplicity of fissioning systems ^{220,222,224}Th nuclei.* by Savi Goyal …**S. Verma**…et. al., EPJ Web of Conferences **86**, 00013 (2015) ***ISSN (Electronic Edition): 2100-014X***
2. *Dipole bands in high spin states of* $^{135}_{57}La_{78}$ by Ritika Garg, S. Kumar, Mansi Saxena, Savi Goyal, Davinder Siwal, and **S. Verma** R. Palit, Sudipta Saha, J. Sethi, Sushil K. Sharma, T.

Trivedi, S. K. Jadav, R. Donthi, and B. S. Naidu S. Mandal AIP Conference proceedings 1609, 125 (2014) ISSN/ISBN Number : 978-0-7354-1245-3

3. *Fusion and transfer reactions around the Coulomb barrier for $^{28}Si+^{90,94}Zr$ systems by* Sunil Kalkal...**S.Verma**... et. al. ***J.Phys.:Conf.Ser. 312, 082027 (2011)*** Online ISSN: 1742-6596 Print ISSN: 1742-6588
4. *Isomeric States in ^{208}Hg and ^{209}Tl Populated in Fragmentation of ^{238}U ^{209}Tl* by N. Al-Dahan ...**S.Verma**... et. al. ***Acta Phys.Pol. B40, 871 (2009)***
5. *Angular Momentum Population in Fragmentation Reactions by* A.M. Denis Bacelar...**S.Verma**... et. al. ***Acta Phys. Pol. B40, 889 (2009)***
6. *β-Delayed g-Ray spectroscopy of Heavy Neutron Rich Nuclei "South" of Lead by* A.I. Morales...**S.Verma**... et. al. ***Acta Phys. Pol. B40, 867 (2009)***)

b) *Research papers Published in Conferences/Seminar other than Refereed/Peer Reviewed Conferences*

Publications in National symposiums

1. *High Spin negative parity states in ^{135}Pr*
Ritika Garg … **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys*. A21 96 (2015)

2. Fabrication of enriched ^{176}Yb self-supporting targets for the study of fission dynamics in mass region A~ 200 Neeraj Kumar…**Shashi Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys*. G54 1010 (2015)

3. Investigation of dissipation in fission of $^{220,222,224}Th$ isotopes formed in $^{16}O+^{204,206,208}Pb$ fusion reaction Reaction Savi Goyal … **S Verma** … et. al. *Proceedings of DAE-BRNS symposium on Nuclear Physics* B142 592 (2014).

4. Exploration of reaction mechanism at deep sub-barrier region for ^{28}Si + ^{90}Zr system
Khushboo… **S Verma** … et. al. *Proceedings of DAE-BRNS symposium on Nuclear Physics* B144 596 (2014).

5. Probing dissipation effects via evaporation residue excitation function for the the $^{16,18}O+^{198}Pt$ Reactions Rohit Sandal … **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys*. B110 526 (2013)

6. High Spin States in ^{87}Sr and their discription using shell model calculations Suresh Kumar… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys*. A21 224 (2012)

7. Evaporation residue excitation function measurement for the $^{16,18}O+^{198}Pt$ reactions Rohit Sandal … **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys*. B72 532 (2012)

8. Study of magnetic rotation in mass A = 135 region Ritika Garg … **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys*. A15 218 (2011

9. *Polarization asymmetry measurements for the yrast band of ^{80}Rb* S Kumar… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys*. A67 322 (2011)

10. *A VME based data acqisition system for pulse shape recording of gamma-ray detector* Davinder Siwal … **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys.* G10 1050 (2011)

11. *Negative Parity States in ^{86}Sr* S. Kumar… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys.* A67 322 (2011)

12. *Effects of shell closure of target on neutron multiplicity for the ^{28}Si + $^{204,206,208}Pb$* Savi Goyal … **S Verma** … et. al. *Proceedings of DAE-BRNS symposium on Nuclear Physics* B56 606 (2011).

13. *In beam spectroscopy of negative parity states in ^{135}Pr* Ritika Garg … **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys.* B55 64 (2010).

14. *One and two proton transfer reactions for ^{28}Si +$^{90,94}Zr$ systems at much above the barrier energy* Sunil Kalkal… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys.* B55 226 (2010).

15. Role of neutrons and protons in MR bands in ^{137}Nd and ^{137}Pr nuclei Deepika Choudhury… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys.* B55 66 (2010).

16. *Investigation of fission reaction dynamics and neutron multiplicity in the mass region ~ 200,* Savi Goyal… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys.* B55 314 (2010).

17. *Measurement of transfer reaction cross sections for ^{28}Si + $^{90,94}Zr$ in sub-barrier and near barrier region,* Sunil Kalkal… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys.* B54 272 (2009).

18. *Measurement of fusion excitation functions around the Coulomb barrier for ^{28}Si + $^{90,94}Zr$ systems,* Sunil Kalkal… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys.* B54 274 (2009).

19. *Fusion and angular distribution measurements for ^{40}Ca + ^{70}Zn around Coulomb barrier,* Ranjeet… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys.* 52, 329 (2007).

20. *Elastic scattering and fusion measurements for ^{7}Li + ^{9}Be system*, **Shashi Verma**… et. al. *Proc. DAE-BRNS symp. On Nucl. Phys.* 51, 467 (2006).

21. *Deep Optical potential approach to the analysis of ^{14}C + ^{12}C elastic scattering* **Shashi Verma**, Raghuvir Singh, Florent Hass *Proc. DAE-BRNS symp. On Nucl. Phys. 50C, 372 (2005)*

22. *Elastic scattering and fusion cross sections for ^{7}Be, ^{7}Li + ^{27}Al system* K. Kalita… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys. 50C, 370 (2005)*

23. *Fission Hindrance studies in ^{200}Pb* P.D. Shidling… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys. 50C, 340 (2005)*

24. *Elastic scattering measurement for ^{7}Be + ^{9}Be systems* **S. Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys. 47B, 340 (2004)*

25. *Fusion cross sections for ^{7}Be + ^{27}Al system from quasi elastic scattering* K. Kalita… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys. 47B, 306 (2004)*

26. *Fission Hindrance studies: Evaporation residues and gamma measurement* P.D. Shidling… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys. 47B, 270 (2004)*

27. *Development of large area telescopic detector system for transfer reaction angular distribution measurements* K. Kalita… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys. 47B, 554 (2004)*

28. *Simultaneous measurement of elastic, transfer and fusion cross scetions for ^{7}Be + ^{27}Al system* K. Kalita…

S.Verma... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys. 46B, 316 (2003)*

29. *Annular Detector setup for RIB experiments at NSC* Akhil Jhingan… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys. 45B, 416 (2002)*

30. *In Vacuum target transfer system for $^{7}Be + ^{7}Li$ scattering experiment* S. Barua… **S.Verma**... et. al. *Proc. DAE-BRNS symp. On Nucl. Phys. 46B, 468 (2002)*

Conference Organization/ Presentations (in the last three years)

Total Publication Profile optional

Year 2003-2017

Reviewed Journals ~28, Conferences and symposia ~40 , Invited talks and Seminars ~ 10

Research Projects (Major Grants/Research Collaboration)

Awards and Distinctions

GATE – 2001 : Qualified Graduate Aptitude Test in Engineering (GATE-2001) in Physics held on February 11, 2001 conducted by Indian Institute of Technology, Kanpur, India.

JRF-NET-2000 : Qualified joint CSIR-UGC Junior Research Fellowship (JRF) and Eligibility for Lectureship- National Eligibility Test (NET) held on 31.12.2000 in Physical Sciences conducted by CSIR-UGC, India.

Association With Professional Bodies

Other Activities

Invited Talks and Seminars Seminar on "Elastic scattering measurements for ^{7}Be, $^{7}Li + ^{9}Be$ system and fusion measurement for $^{7}Li + ^{9}Be$ system using low energy Radioactive Ion Beam facility" at various European Labs (2006):

* Laboratori Nazionali del Sud (LNS), Catania, Italy.

* Laboratori Nazionali del Leganro (LNL), Padova, Italy.

* Gesellschaft fur Schwerionenforschung mbH (GSI), Darmstadt, Germany.

* Institut Pluridiscplinaire Hubert Curien (IPHC), Strasbourg, France.

* Grand Accelerateur National d Ions Lourds (GANIL), CAEN, France

Signature of Faculty Member

- You are also requested to also give your complete resume as a DOC or PDF file to be attached as a link on your faculty page.