

## Profile Page



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### Research Interests :

1. Theoretical Nuclear Physics
2. Study of Superdeformed nuclei

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### Journal Publications :

Year	Journal	Publication
2020	International Journal of Modern Physics E Vol. 29, No.9 (2020) 2050081 (19 pages)	Monica Karday, Anshul Dadwal and H M Mittal, "Examination of phenomenological formulae in superdeformed bands of A~190,150 mass regions"
2020	Physica Scripta, Vol. 95, (2020) 105303 (12 pages)	Monica Karday, Anshul Dadwal and H M Mittal, "Systematic study of superdeformed rotational bands in Hg isotopes"
2019	Eur. Phys. J. A (2019) 55: 12	Anshul Dadwal and H. M. Mittal, "Spins and moment of inertia of superdeformed bands in the Pb isotopes"
2019	Eur. Phys. J. Plus (2019)134:138 (8 pages)	Monica Karday and H. M. Mittal, "Test for the constancy of Grodzins product rule in the higher spin states of ground band"

2019	Physical Review C 99, 044305 (2019) (12 pages)	Anshul Dadwal and H.M. Mittal, "Empirical evidence of a superrigid structure of "flat" superdeformed bands"
2018	Journal of Physics G: Nuclear and Particle Physics Vol. (2018)	Anshul Dadwal and H.M. Mittal, "Identical superdeformed bands in yrast 152Dy: a systematic description"
2018	"Modern Physics Letters A Vol. 33 (2018) 1850048 (14 pages)	Monica Karday, H. M. Mittal and Rohit Mehra, "Systematic study of the nature of gamma bands in A=100-200 mass nuclei"
2018	Pramana Journal of Physics (2018) 91: 70. (11pages)	Monica Karday, H. M. Mittal and Rohit Mehra, "Systematic study of rigid triaxiality in Ba–Pt nuclei and role of Z = 64 subshell effect"
2018	Modern Physics Letters A Vol. 33 (2018) 1850048 (14 pages)	Honey Sharma and H. M. Mittal, "Band head spin assignment of superdeformed bands in 133Pr using two-parameter formulae"
2018	Chinese Physics C Vol. 42, No. 5 (2018) 054104 (14 pages)	Honey Sharma and H M Mittal "Band head spin assignment of superdeformed bands in Hg isotopes through power index formula"
2018	Nuclear Physics A Vol. 975 (2018) 48–58	Amit Bindra and H.M. Mittal "The magnification of structural anomalies with Grodzins systematic in the framework of Asymmetric Rotor Model"
2018	Journal of Physics G: Nuclear and Particle Physics Vol. (2018)	Anshul Dadwal and H.M. Mittal "Identical superdeformed bands in yrast 152Dy: a systematic description"
2018	Modern Physics Letters A Vol. 33 (2018) 1850048 (14 pages)	Monica Karday, H. M. Mittal and Rohit Mehra "Systematic study of the nature of gamma bands in A=100-200 mass nuclei"
2018	Chinese Physics C Vol. 42, No. 5 (2018) 054104	Honey Sharma and H. M. Mittal, "Band head spin assignment of superdeformed bands in Hg isotopes through power index formula"
2018	Nuclear Physics A Vol. 975 (2018) 48–58	Amit Bindra and H.M. Mittal, "The magnification of structural anomalies with Grodzins systematic in the framework of Asymmetric Rotor Model"
2017	International Journal of Modern Physics E Vol.26, No.11(2017) 1750074 (14 pages)	Honey Sharma and H M Mittal, "Band head spin assignment of Superdeformed bands in A=60?80 mass region through nuclear softness formula"
2017	Chinese Physics C Vol. 41, No. 12 (2017) 124105 (12 pages)	Honey Sharma and H M Mittal, "Systematic study of rotational energy formulae for superdeformed bands in La and Ce isotopes "
2017	Eur. Phys. J. A (2017)53 : 132	Anshul Dadwal and H.M. Mittal, "Description of identical superdeformed bands of A=190 mass region"
2017	Chinese Physics C Vol. 41, No.8 (2017) (7 pages)	Honey Sharma, Neha Sharma and H.M. Mittal, "Systematic study of kinematic and dynamic moment of inertia of superdeformed bands with NpNn scheme"
2017	Chinese Physics C Vol.41, No.5 (2017) 054102 (6 pages)	Amit Bindra and H.M. Mittal, "Systematic dependence of SFE_B(E2) " and ROTE_B(E2) " on NpNn in the framework of shape fluctuation model"
2017	Eur. Phys. J. A (2017) 53: 2	Anshul Dadwal and H.M. Mittal, "Spins of superdeformed rotational bands in Tl isotopes"
2016	Chinese Physics C Vol. 40, No. 11 (2016) 114103 (7 pages)	Anshul Dadwal and H.M Mittal, "Band head spin assignment of superdeformed bands in 86Zr"
2016	Chinese Physics C Vol. 40, No. 9 (2016) 094104 (5 pages)	Parveen Kumari and H.M Mittal, "Systematic study of the product (R(2?) *B(E2) through Asymmetric Rotor Model"
2016	International Journal of Modern Physics E Vol.25, No.7 (2016) 1650038 (14 pages)	Anshul Dadwal, Neha Sharma and H M Mittal, "Level spins of superdeformed bands in A=80 mass region"
2015	Cent. Eur. J. Phys. Vol.13 (2015) 305-309 (5 pages)	Parveen Kumari, H.M Mittal, "Study of Grodzins product in the (E(21)*B(E2)) framework of Asymmetric Rotor Model"
2015	International Journal of Modern Physics E Vol.24, No.7 (2015) 1550054 (6 pages)	Neha Sharma and H M Mittal, "Systematics of band moment of inertia of yrast and excited SD bands of even-even nuclei in A= 150 mass region"
2015	Physica Scripta 90 (2015) 085304 (6pp)	Parveen Kumari, H.M Mittal, "Study of multiphonon ?? –band in neutron rich 112Ru nucleus and molybdenum isotopes"

2015	International Journal of Modern Physics E Vol.24, No.5 (2015) 1550033 (9 pages)	Parveen Kumari and H M Mittal, "Systematic dependance of Grodzins product rule on NpNn"
2015	International Journal of Nuclear Energy Science & Technology Vol.9 , No.1 (2015) 35-41	H.M. Mittal and Parveen Kumari, "Systematic study of the subshell effect at Z=64 and the neutron discontinuity at N=88-90"
2014	International Journal of Applied Engineering Research, Vol. 9 No.11 (2014) 1305-1310	Neha Sharma and H.M. Mittal, "Existence of structural effects in band moment of inertia of SD bands in A=190 mass region"
2014	Innovations & Research in Physico-Chemical Sciences-A Step towards Sustainability (2014) pp. 63-67 (ISBN: 978-93-83083-88-6)	Parveen Kumari and H. M. Mittal, "Nuclear Structure of the neutron-deficient $^{132}\text{Ce}$ "
2013	International Journal of Modern Physics E Vol.22 (2013), No.8, 1350053 (11 pages)	Neha Sharma and H M Mittal, "Systematic study of nuclear softness of superdeformed bands in A=190 mass region"
2013	International Journal of Nuclear Energy Science & Technology Vol.7 (2013), No.4, 368-379	H.M. Mittal and Neha Sharma, "Band moment of inertia of identical SD bands in A=190 mass region"
2013	AIP Conference Proceeding Vol. 1524 (2013) 194-196	Neha Sharma, H M Mittal and A K Jain, "Influence of pairing correlations on SD bands of $^{130}\text{La}$ and $^{132}\text{Pr}$ in A=130 mass region"
2013	Physical Review C 87, 024322	Neha Sharma, H.M. Mittal, Suresh Kumar and A.K. Jain, "Empirical evidence for magic numbers of superdeformed shapes"
2012	Armenian Journal of Physics Vol. 5, issue 4 pp. 165-175	H.M. Mittal and Neha Sharma, "Search of $\pm F_0$ symmetry and identical bands in SD nuclei in $72 \leq N \leq 86$ region"
2012	Journal of Physics: Conference Series Vol. 420 (2013) 012056	H.M. Mittal and Neha Sharma, "Adiabatic invariant behavior of dynamical moment of inertia of superdeformed bands in the nucleus $^{194}\text{Tl}$ "
2012	Turkish Journal of Physics Vol. 36, pp. 117-131	H.M. Mittal and Vidya Devi, "Nuclear structure of Xe-Pt nuclei in the framework of ARM and odd-even staggering"
2011	International Journal of Nuclear Energy Science & Technology Vol.6 , No.3 pp. 224-234	H.M. Mittal and Vidya Devi, "Search for Low Spin Identical Bands In Light Xe-Gd Nuclei"
2011	Journal of Physics: Conference Series Vol. 312 092042(1-5)	H.M. Mittal and Vidya Devi, "Study of triaxiality in Xe-Hg nuclei"
2011	Journal of Physics: Conference Series Vol. 312 092041 (1-5)	H.M. Mittal and Vidya Devi, "The odd-even staggering in $^{122-124}\text{Xe}$ and $^{124-128}\text{Ba}$ nuclei"
2011	International Journal of Nuclear Energy Science & Technology Vol.6 , No.1 pp. 64-75	H.M. Mittal and Vidya Devi , "Interacting boson model-1 calculations for even-even $^{122-132}\text{Xe}$ and $^{126-136}\text{Ba}$ nuclei "
2010	Physica Scripta Vol. 81 (2010) 015202 (6pp)	H.M. Mittal, Vidya Devi and J. B. Gupta, "Validity of Single-term formula for ground band energies in light Xe-Gd nuclei"
2010	International Journal of Nuclear Energy Science & Technology Vol.5 , issue 2 pp.134-142	Vidya Devi and H.M. Mittal, "Two parameter formula for ground band energy spectra of A=120-200 mass region nuclei"
2009	Armenian Journal of Physics Vol. 2, issue 3 pp. 146-156	H.M. Mittal and Vidya Devi, "Evidence for possible O(6) symmetry in A=120-200 mass region"
2009	International Journal of Theoretical and Applied Sciences Vol. 1(2) pp. 5-8	H.M. Mittal and Vidya Devi, "Study of two parameter formula for gamma band energies in Xe-Pt nuclei"
2009	International Journal of Theoretical and Applied Sciences Vol. 1(1) pp. 96-102	H.M. Mittal and Vidya Devi, "The systematic study of odd-even staggering in A=130-200 region"

1991	Physica Scripta Vol.41 pp:558-560	H.M Mittal, S. Sharma and J. B. Gupta , “Tests of rigid triaxiality for light Te-Sm nuclei”
1990	Physical Rev. C Vol.42 pp:1373-1379	J.B.Gupta, H.M Mittal, J.H. Hamilton and A.V. Ramayya, “ Systematic dependence of the $\gamma$ -g B(E2) ratios of NpNn product”
1990	Physica Scripta Vol.41 (1990) pp:660-666	J.B.Gupta, H.M Mittal and S. Sharma, “Study of shape phase transition and the F-spin multiplets through the shape fluctuation energy”

## Conference Publications :

Year	Conference	Publication
2022	DAE-BRNS Symposium on Nuclear Physics (India) 66 (2022) 246	H.M. Mittal and Honey Sharma "Validity of rotational energy formulae for super deformed band in 83Y”
2021	DAE-BRNS Symposium on Nuclear Physics (India) 65 (2021) 98	Honey Sharma and H. M. Mittal "Band head spin determination for superdeformed bands in 83Y"
2021	DAE-BRNS Symposium on Nuclear Physics (India) 65 (2021) 200	Vidya Devi and H. M. Mittal and J.B. Gupta "Shape fluctuation model of ground state band in Gd isotopes"
2019	DAE-BRNS Symposium on Nuclear Physics (India) 64 (2019) 134	H. M. Mittal, Monica Karday, and Anshul Dadwal, "Test for validity of rotational energy formulae for SD bands"
2019	DAE-BRNS Symposium on Nuclear Physics (India) 64 (2019) 136	Monica Karday, Anshul Dadwal, and H. M. Mittal, "Spin determination and role of pairing correlations in the SD bands of Hg isotopes"
2019	DAE-BRNS Symposium on Nuclear Physics (India) 64 (2019) 184	Honey Sharma and H. M. Mittal, "Systematic study of rotational properties for triaxial superdeformed bands of 164Lu(1, 2)"
2019	DAE-BRNS Symposium on Nuclear Physics (India) 64 (2019) 186	Honey Sharma and H. M. Mittal, "Systematic study of rotational energy formulae in superdeformed bands of 86Zr"
2019	DAE-BRNS Symposium on Nuclear Physics (India) 64 (2019) 188	Honey Sharma and H. M. Mittal, "Band head moment of inertia of superdeformed bands in La-Nd in A~130 mass region"
2019	DAE-BRNS Symposium on Nuclear Physics (India) 64 (2019) 262	Vidya Devi and H. M. Mittal, "Spins of Superdeformed Bands in Zr isotopes"
2018	International Symposium on Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) Vol. 63 (2018) 108	H M Mittal and Anshul Dadwal, "Empirical evidence of super-rigid structure in superdeformed band of A ~ 190 mass region"
2018	International Symposium on Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) Vol. 63 (2018) 138	H M Mittal and Monica Karday, "Test for the global validity of Grodzins product rule"
2018	International Symposium on Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) Vol. 63 (2018) 136	H M Mittal and Honey Sharma, “Signature partners pairs in triaxial superdeformed band of 164Lu isotopes”
2018	International Symposium on Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) Vol. 63 (2018) 150	Honey Sharma and H M Mittal, “I=2 staggering in superdeformed band of different mass regions”
2018	International Symposium on Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) Vol. 63 (2018) 152	Honey Sharma and H M Mittal, “ Study of backbending in superdeformed band.. of $^{36}\text{Ar}$ through two parameter formula”
2018	International Symposium on Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) Vol. 63 (2018) 190	Vidya Devi and H M Mittal, “Study of $\Delta I=2$ staggering in Eu and Dy isotopes”

2018	International Symposium on Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) Vol. 63 (2018) 214	Neha Sharma and H M Mittal, “Systematics of Superdeformed band in the isotopes of Zn and Ge in A=60 Mass region”
2017	DAE-BRNS Symposium on Nuclear Physics (India) 62 (2017) 78	Neha Sharma, H.M. Mittal, and A.K. Jain, “Evidence of increasing deformation with particle number for superdeformed shapes”
2017	DAE-BRNS Symposium on Nuclear Physics (India) 62 (2017) 136	Vidya Devi and H. M. Mittal, “Identical energy bands of 236U and 238U isotopes by using two parameter formula”
2017	DAE-BRNS Symposium on Nuclear Physics (India) 62 (2017) 156	H. M. Mittal and Anshul Dadwal , “Pairing correlation in the flat bands of the superdeformed Pb nuclei”
2017	DAE-BRNS Symposium on Nuclear Physics (India) 62 (2017) 158	Monica Karday, H. M. Mittal and Rohit Mehra, “Systematic study of triaxial deformation in Ba- Pt nuclei”
2017	DAE-BRNS Symposium on Nuclear Physics (India) 62 (2017) 166	H. M. Mittal and Honey Sharma, “Search of identical superdeformed bands in 195Tl and 197Bi possessing same F0 symmetry”
2017	DAE-BRNS Symposium on Nuclear Physics (India) 62 (2017) 178	Honey Sharma and H. M. Mittal, “Systematic study of superdeformed bands in 152Tb”
2017	DAE-BRNS Symposium on Nuclear Physics (India) 62 (2017) 240	Parveen Kumari and H.M. Mittal, “Systematic study of ( $R^4/2 \cdot B(E2)$ ) product with NpNn”
2017	DAE-BRNS Symposium on Nuclear Physics (India) 62 (2017) 310	Anshul Dadwal and H. M. Mittal, “I = 4 bifurcation in superdeformed 194Hg nucleus”
2016	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 61 (2016) pp. 88	Neha Sharma, H. M. Mittal , and A. K. Jain, Influence of triaxiality on yrast and excited Superdeformed bands
2016	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 61 (2016) pp. 132	Anshul Dadwal and H. M. Mittal, Spins of superdeformed rotational bands in A ~ 190 mass region
2016	Proceedings of National Conference on Recent Trends in Nuclear Physics, Aligarh Muslim University, Aligarh (2016) Pg. 39-40.	H. M. Mittal and Anshul Dadwal, Band head spin prediction of 193Pb superdeformed nucleus
2016	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 61 (2016) pp. 250	Amit Bindra and H. M. Mittal, Systematic dependence of $SFE \propto B(E2)$ and $ROTE \propto B(E2)$ on NpNn in A = 100-200 mass region
2016	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 61 (2016) pp. 276	H. M. Mittal, Parveen Kumari and Monica Karday, Structure of 152Nd nucleus in IBM
2016	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 61 (2016) pp. 218	Vidya Devi and H. M. Mittal, Phenomenological description of even-even isotopes in the A < 100 mass region
2016	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 61 (2016) pp. 214	Neha Sharma, H. M. Mittal, and A. K. Jain, Global features of band moment of inertia and softness parameter of superdeformed bands
2016	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 61 (2016) pp. 212	Honey Sharma, Neha Sharma, H. M. Mittal, Study of F- spin symmetry and identical spectra in Superdeformed nuclei in A~ 130 mass region
2016	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 61 (2016) pp. 142	H. M. Mittal and Parveen Kumari, Study of the product ( $R^4/2 \cdot B(E2)$ ) through Asymmetric Rotor Model
2016	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 61 (2016) pp. 134	H. M. Mittal and Anshul Dadwal, Signature partner pairs of superdeformed rotational bands in 192Tl

2015	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 60 (2015) pp. 188	Vidya Devi and H. M. Mittal, Nuclear structure of Pd nuclei in the framework of IBM-1 and odd even staggering
2015	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 60 (2015) pp. 160	Amit Bindra and H. M. Mittal, Systematic study of Grodzins Product Rule (GPR) with P- Factor
2015	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 60 (2015) pp. 254	Neha Sharma, H. M. Mittal and A. K. Jain, Band moment of inertia of yrast and excited SD band of even-even nuclei in A=150 mass region
2015	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 60 (2015) pp. 136	H. M. Mittal, Honey Sharma and Neha Sharma, Systematic study of kinematic and dynamic moment of inertia of SD band in A=150 mass region
2015	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 60 (2015) pp. 168	Parveen Kumari and H. M. Mittal, Study of multiphonon gamma-gamma band.. in 110Ru
2015	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 60 (2015) pp. 132	H. M. Mittal and Anshul Dadwal, Level spin for superdeformed 195Hg nucleus
2014	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 59 (2014) pp. 190	Vidya Devi and H. M. Mittal, The empirical study of the energy spin relationship in the ground bands of even-even nuclei
2014	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 59 (2014) pp. 176	H. M. Mittal and Parveen Kumari, Systematic dependence of product $(E(2^+_1) \cdot B(E2))$ on asymmetry parameter $\beta_0$
2014	DAE-BRNS Symposium on Nuclear Physics (India) Vol.59 (2014) pp.168	Neha Sharma, H.M. Mittal and A.K. Jain, Systematics of band moment of inertia of excited SD bands of even-even nuclei in A=150 mass region
2014	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 59 (2014) pp. 100	Parveen Kumari and H. M. Mittal, Nuclear structure of multiphonon $\gamma$ -band in neutron rich 112Ru nucleus
2013	International Symposium on Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) Vol. 58 pp. 168-169	Vidya Devi and H. M. Mittal, Ground- $\gamma$ -band odd-even staggering in 188-192Os and 228-230Th nuclei
2013	International Symposium on Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) Vol. 58 pp. 162-163	Neha Sharma, H. M. Mittal and A. K. Jain, Systematic study of nuclear softness of superdeformed bands with NpNn scheme in A=190 mass region
2013	International Symposium on Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) Vol. 58 pp. 86-87	H. M. Mittal and Parveen Kumari, Search the nature of multiphonon $2^+_1$ -band of 158Dy
2013	International Symposium on Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) Vol. 58 pp. 78-79	Neha Sharma, H. M. Mittal and A. K. Jain, Global study of softness parameter of superdeformed bands
2012	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 57 (2012) pp. 376	Vidya Devi and H. M. Mittal, The Study of different dynamical symmetry in the Pd isotopes
2012	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 57 (2012) pp. 306	Neha Sharma, H. M. Mittal and A.K. Jain, Super rigid nature of super-deformed bands
2012	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 57 (2012) pp. 304	H. M. Mittal and Neha Sharma, Superdeformed GIB phenomenon in A=60 and A=80 mass regions
2012	International Conference on Recent Trends in Nuclear Physics (ICRTNP-2012) at Chikara University, Barotiwal, Solan	Neha Sharma, H. M. Mittal and A. K. Jain, Influence of pairing correlations on SD bands of 130La and 132Pr in A=130 mass region
2012	11th International Conference on Nucleus-Nucleus Collisions (NN2012) in San Antonio, Texas, USA,	H. M. Mittal and Neha Sharma, Adiabatic invariant behavior of dynamical moment of inertia of superdeformed nuclear state
2011	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 56 (2011) pp. 334	H. M. Mittal, Neha Sharma, and A. K. Jain, Influence of band interaction on superdeformed rotational bands

2011	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 56 (2011) pp. 332	Neha Sharma, H. M. Mittal and A. K. Jain, Band moment of inertia in signature partner and identical SD bands in odd – odd nuclei of A=190 mass region
2011	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 56 (2011) 250	Vidya Devi and H. M. Mittal, The study of $^{152}\text{Gd}$ and $^{154}\text{Dy}$ isotopes in the frame work of interacting boson model and SU(5) symmetry
2011	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 56 (2011) 248	Vidya Devi and H. M. Mittal, The study of triaxial rotor model in A=120-200 mass region nuclei
2011	Gordan Research Conferences, Colby Sawyer College New London, New Hampshire, USA	H. M. Mittal , Neha Sharma and A. K. Jain, Search of $+F_0$ symmetry and identical bands in SD nuclei in N=72-86 region
2010	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 55 (2010) pp. 106	Neha Sharma and H. M. Mittal, Evidence of identical super deformed bands in N=112 isotones
2010	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 55 (2010) pp. 104	H. M. Mittal and Vidya Devi, The study of $^{126}\text{--}^{136}\text{Ba}$ isotopes in the frame work of interacting boson model
2010	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 55 (2010) pp.102	H. M. Mittal and Vidya Devi, The Study of nuclear structure of A = 120-200 mass region nuclei in term of symmetry
2010	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 55 (2010) pp. 100	H. M. Mittal and Vidya Devi, Unified description of the low lying states of the ground bands of Xe-Gd nuclei
2010	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 55 (2010) pp. 18	Neha Sharma, H. M. Mittal and A.K. Jain, Features of SD bands in odd – odd nuclei of A=190 mass region
2010	International Symposium on Nuclear Symmetry Energy, RIKEN, Wako, Japan	H. M. Mittal and Vidya Devi, Low Spin Identical bands in Adjacent Even-Even nuclei of A=120-200 region
2010	International Nuclear Physics Conference (INPC-2010) held at University of British Coulombia, Vancouver, Canada pp. 113	H. M. Mittal and Vidya Devi, Study of Triaxiality in Xe-Pt nuclei
2010	International Nuclear Physics Conference (INPC-2010) held at University of British Coulombia, Vancouver, Canada	H. M. Mittal and Vidya Devi, The odd-even staggering in $^{122}\text{--}^{124}\text{Xe}$ and $^{126}\text{--}^{128}\text{Ba}$ Nuclei
2010	3th International Conference on Current Problems in Nuclear Physics and Atomic Energy held at Kyiv, Ukraine pp. 138-140	H. M. Mittal and Vidya Devi, The Study of F-spin Multiplet in Xe-Gd Nuclei
2010	3th International Conference on Current Problems in Nuclear Physics and Atomic Energy held at Kyiv, Ukraine pp. 85	H. M. Mittal and Vidya Devi, Study of Ground and Gamma Band Energies using Soft Rotor Formula for A=120-150 mass Region Nuclei
2009	International Symposium on Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) Vol. 54 pp. 172-173	H. M. Mittal, Vidya Devi and Neha Sharma, Search of O(6) symmetry in A=120-200 mass region
2009	International Symposium on Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) Vol. 54 pp. 170-171	H. M. Mittal and Vidya Devi, Study of identical bands with NpNn scheme in A=120-200 mass region
2009	International Symposium on Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) Vol. 54 pp. 168-169	H. M. Mittal and Vidya Devi, Study of Triaxial rotor model and calculation of deformation parameter beta and gamma in A=120-200 mass region
2009	International Symposium on Nuclear Physics at Bhabha Atomic Research Centre, Mumbai (India) Vol. 54 pp. 166-167	H. M. Mittal, Vidya Devi and J. B. Gupta, Comparative study of two parameter formulae for A=120-200 mass region
2008	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 53 (2008) pp. 279	H. M. Mittal, Vidya Devi and J. B. Gupta, Identical bands in Ba-Dy, N=104 space

2008	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 53 (2008) pp. 277	H. M. Mittal, Vidya Devi and J. B. Gupta, Search for identical bands in the N=82 nuclei
2008	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 53 (2008) pp. 275	H. M. Mittal, Vidya Devi and J. B. Gupta, Investigation of odd-even staggering in A=130-200 region
2008	2th International Conference on Current Problems in Nuclear Physics and Atomic Energy held at Kyiv, Ukraine pp. 396-400	H. M. Mittal and Vidya Devi, Systematic study of shape fluctuation energy and rotational energy in the framework of ARM
2007	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 52 (2007) pp. 260	H. M. Mittal and Vidya Devi, Study of shape fluctuation energy and rotational energy in the framework of Asymmetric Rotor Model
2007	6th International Conference on Nuclear and Particle Physics (NUPPAC-2007) held at Luxor, Egypt NSS2-5 (113)	H. M. Mittal and Vidya Devi, Investigation of identical band in light Te-Gd nuclei
2007	International Nuclear Physics Conference (INPC-2007) held at Tokyo International Forum Tokyo, Japan QM-022	H. M. Mittal and Vidya Devi, Single term energy expression for g-band in light Te-Gd nuclei
2006	DAE-BRNS Symposium on Nuclear Physics (India) Vol. 51B (2006) pp. 312	H. M. Mittal, Vidya Devi and J. B. Gupta, Study of g-Band in Light Te-Gd Nuclei Using Single Term Energy Expression
2005	DAE-BRNS 50th Symp. on Nucl. Phys. (India) Vol. 50 (2005) pp. 291	H. M. Mittal & Satendra Sharma, Study of 150Nd in Interacting Boson Model-1
2005	National Conference on Advances in Condensed Matter Physics (ACMP-05), School of Physics and Material Science, Thaper Institute of Engineering and Technology, Patiala, (2005) pages 148-152	H. M. Mittal, Moninder Kaur, S. Sharma & J. B. Gupta, Nuclear Structure of N=88-90 Isotones of Ba-Yb in the Interacting Boson model-1
2004	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 47B (2004) pp. 98	H. M. Mittal & J. B. Gupta, Study of 154Gd Nuclei in IBM-1
2003	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 46B (2003) pp. 166	H. M. Mittal & J. B. Gupta, Study of 158Er Nuclei in IBM-1
2002	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 45B (2002) pp. 96	H. M. Mittal & J. B. Gupta, Study of IBM Wave Functions in 152 Sm
2001	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 44B (2001) pp. 66	H. M. Mittal & J. B. Gupta, Study of IBM Wave Functions in 160 DY
2001	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 44B (2001) pp. 64	H. M. Mittal & J. B. Gupta, Study of IBM Parameters for N=88 and N=90 Isotones
1997	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 40B (1997) pp. 74	H. M. Mittal and S. P. Sud, An Application of the Asymmetric Rotor Model of the 144-150Nd Isotopes
1995	International Nuclear Physics Symposium (INSP-95) Bombay, Vol. 38B pp. 59-60	H. M. Mittal, S. Sharma, S. K. Soni, K.S. Sen and S. P. Sud, A Test of F-spin multiplets in Light Te-Sm Nuclei
1994	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 37B (1994) pp. 87	H. M. Mittal, S. Sharma, K. S. Sen, S. K. Soni and S. P. Sud, Study of 196Pt Nuclei in IBM-1
1994	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 37B (1994) pp. 53	S. Sharma, H. M. Mittal, S. K. Soni, K. S. Sen and S. P. Sud, An Application of the Asymmetric Rotor Model to N=84 isotones 138Xe – 146Sm
1994	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 37B (1994) pp. 43.	H. M. Mittal, S. Sharma and S. P. Sud, Nuclear Structure of 140-146Ba isotopes in the IBM-1
1993	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 36B (1993) pp. 84	S. Sharma, K. S. Sen, H. M. Mittal and S. P. Sud, Nuclear Structure of 154-160Dy in the Asymmetric Rotor Model
1992	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 35B (1992) pp. 72	H. M. Mittal, Nuclear Structure of 142-148Ce in the IBM-1



1992	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 35B (1992) pp. 44	S. Sharma, K. S. Sen, H. M. Mittal and S. P. Sud, Calculation of Moment of Inertia of Ground State from the Nuclear Softness Model
1992	International Nuclear Physics Conference, Wiesbaden, Germany, pp: 1.1.25-1.126	H. M. Mittal, J. B. Gupta, and A. K. Kavathekar, Nuclear Structure of N=88-90 Isotones of Ba-Yb in the Interacting Boson Model-1
1992	International Nuclear Physics Conference, Wiesbaden, Germany, pp: 1.1.21-1.122	H. M. Mittal, Study of Beta Softness in 158Dy
1990	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 33B (1990) pp. 53	J. B. Gupta and H. M. Mittal, Study of SU(3) wavefunctions in the SU(5) basis
1990	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 33B (1990) pp. 35	H. M. Mittal, and J. B. Gupta, Study of N=88 and N=90 isotones in the IBM-1
1990	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 33B (1990) pp. 15	J. B. Gupta and H. M. Mittal, Study of beta softness in 158Dy
1989	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 32B (1989) pp.106	Satendra Sharma, H. M. Mittal and J. B. Gupta, Calculation of moment of inertia from the nuclear softness model
1989	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 32B (1989) pp. 104	H. M. Mittal, J. B. Gupta and Satendra Sharma, Tests of rigid triaxiality for light Te-Sm nuclei
1988	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 31B (1988) pp. 22	J. B. Gupta, S. Sharma and H. M. Mittal, Systematic dependence of B(E2) branching ratios on NpNn product
1988	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 31B (1988) pp. 21	J. B. Gupta, H. M. Mittal and Satendra Sharma, Nuclear structure of N = 86 isotones in the IBM – 1
1987	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 30B (1987) pp. 194	H. M. Mittal, The systematic study of gamma and beta-bands in deformed nuclei
1986	DAE-BRNS Symp. on Nucl. Phys. (India) Vol. 29B (1986) pp. 171	J. B. Gupta, H. M. Mittal and M. M. Gupta, Core versus particle effect on moment of inertia of odd A nuclei
	DAE-BRNS Symposium on Nuclear Physics (India) 64 (2019) 188	Honey Sharma and H. M. Mittal, "Band head moment of inertia of superdeformed bands in La-Nd in A?130 mass region"

## Research Projects :

Role	Project Type	Title	Funding Agency	From	To	Amount	Status	Co-Investigator
Principal Investigator	Research Project	Some Universal Features of Nuclear Structure in Superdeformed Nuclei	Department of Science and Technology (DST), Government of India	Started from May 2014	May 2017	Rs. 13,67,880.00	Completed	None

## Events Organized :

Category	Type	Title	Venue	From	To	Designation
TEQIP-II sponsored Short Term Course	National	Recent Trends in Advanced Materials and Computing Techniques	Dr. B.R. Ambedkar National Institute of Technology, Jalandhar	11.03.2013	15.03.2013	Chief Coordinator

TEQIP-II sponsored Short Term Course	National	Emerging Trends in Physics and Information Technology	Dr. B.R. Ambedkar National Institute of Technology, Jalandhar	10.06.2013	14.06.2013	Chief Coordinator
A Short Term Course	National	Advances in Nuclear Physics	Dr. B.R. Ambedkar National Institute of Technology, Jalandhar	18.11.2013	29.11.2013	Course Coordinator
A Short Term Course	National	Dielectrics, Harmonic Oscillators and its Applications	Dr. B.R. Ambedkar National Institute of Technology, Jalandhar	24.02.2014	28.02.2014	Course Coordinator
TEQIP-III sponsored Short Term Course	National	Advanced Functional Materials	Dr. B.R. Ambedkar National Institute of Technology, Jalandhar	30.12.2019	03.01.2020	Member of Organizing Committee
Conference	International	Recent Trends in the Engineering, Management and Science	Delhi Institute of Technology Management and Research, Faridabad	26.09.2019	27.09.2019	Member of Organizing Committee
Self-sponsored online Short Term Course	National	Use of LaTeX in Typesetting Technical Documents	Department of Physics, Dr. B.R. Ambedkar National Institute of Technology, Jalandhar.	31.08.2020	04.09.2020	Member of Organizing Committee
TEQIP-III sponsored online Short Term Course	National	Advances in High Energy Physics	Dr. B.R. Ambedkar National Institute of Technology, Jalandhar	18.09.2020	22.09.2020	Member of Organizing Committee
TEQIP-III sponsored online Short Term Course	National	Recent Trends in Advanced Materials and Devices	Dr. B.R. Ambedkar National Institute of Technology, Jalandhar	21.09.2020	25.09.2020	Convener
TEQIP-III sponsored online Short Term Course	National	Current Trends in Condensed Matter Physics (CTCMP)	Dr. B.R. Ambedkar National Institute of Technology, Jalandhar	25.09.2020	29.09.2020	Member of Organizing Committee

### Professional Affiliations :

Designation	Organization
Life Member, Membership No. LM 28414	Indian Society for Technical Education (ISTE)
Life Member, Membership No. 2721 LM 4042	Indian Association of Physics Teachers (IAPT)
Life Member, Membership No. GEN/LM/13018	Indian Physics Association (IPA)
Life Member, Membership No. L40121	The Indian Science Congress Association

Life Member, Membership No. LM 446	Nuclear Track Society of India
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### PhD Supervised :

Scholar Name	Research Topic	Status	Year	Co-Supervisor
Monica	Empirical and global study of nuclear structure in A=100-200 mass nuclei	Completed	2021	Dr. Rohit Mehra
Amit Bindra	Systematic study of Nuclear Structure of A=100-200 mass nuclei	Completed	2019	None
Honey Sharma	Systematic study of unique features of superdeformation in different mass region	Completed	2019	None
Anshul Dadwal	Some Universal Features of Nuclear Structure in Superdeformed nuclei	Completed	2019	None
Rajan Jakhu	Measurements of Natural Radionuclides for the assessment of the radiation dose in the environs of Jaipur and Ajmer districts of Rajasthan	Completed	2018	Dr. Rohit Mehra
Parveen Kumari	Global and systematic study of Nuclear Structure of even-even nuclei of A=100-200 mass region	Completed	2017	None
Neha Sharma	Some Universal Features and Global Systematics of Superdeformed bands	Completed	2013	Dr A K Jain Professor IIT, Roorkee
Vidya Devi	Empirical and Phenomenological Studies of Nuclear Structure of A=120=200 mass Nuclei	Completed	2011	None

### PG Dissertation Guided :

Student Name	Dissertation Title	Status	Year	Co-Supervisor
Shivlata	Study of Super Deformed Band in $^{194}\text{Hg}$ and $^{193}\text{Tl}$ Nuclei	Completed	2022	None
Shivam Gangwar	Study of superdeformed rotational bands in Hg isotopes	Completed	2022	None
Aalakh Kumar	Study of Magic Numbers for Superdeformed Shapes	Completed	2021	None
Manisha Kumari	Systematic Study of Deformation Parameter ? of Even-Even nuclei (Ba-Dy)	Completed	2021	None
Saurav Gangwar	Dynamic Moment of Inertia of Super Deformed Bands with Rotational Frequency in A=150 mass region	Completed	2021	None
Deepa Yadav	Boron neutron capture therapy (BNCT)	Completed	2020	None
Kanishka Sabharwal	Systematic study of Asymmetry parameter of even-even nuclei (Dy-W)	Completed	2019	None
Neha Dhanda	Systematic study of deformation parameter of even-even nuclei (Ba-Gd)	Completed	2019	None
Vishal	Systematic Study of dynamic moment of inertia of Super deformed Bands with Rotational Frequency in 190 mass region	Completed	2019	None
Ajay Yadav	Systematic study of kinetic and dynamic moment of inertia of superdeformed bands with NpNn scheme	Completed	2018	None
Arjun Sharma	Systematic study of deformation parameter of even-even nuclei (Xe-Dy)	Completed	2018	None
Mohan Yadav	Systematic study of deformation parameter ? of even-even nuclei (Er-Pt)	Completed	2018	None

Narendra Singh Lakhera	Spin determination using relation between kinetic and dynamic moment of inertia in superdeformed bands of Hg isotopes	Completed	2017	None
Sonam Yadav	Magic number of superdeformed bands	Completed	2017	None
Bindia Singla	Band Head Spin Assignment of Superdeformed Rotational Bands in $^{193}\text{Pb}$	Completed	2016	None
Mandeep Kaur	Study of Moment of Inertia of Superdeformed bands in $^{191}\text{Hg}$ and $^{193}\text{Hg}$	Completed	2016	None
Gaganpreet Kaur	Band head spin assignment of Ce isotopes of superdeformed rotational bands	Completed	2015	None
Sukhwinder Singh	Determination of spin and moment of inertia in superdeformed rotational bands of $^{194}\text{Tl}$	Completed	2015	None
Himani Gupta	Quantum phase transitions in the shape of atomic nuclei	Completed	2014	None
Karanpreet	Reanalyzation and updation of the data of interband B(E2) ratios in the rigid triaxial model	Completed	2014	None
Payal Jain	Shape coexistence in atomic nuclei	Completed	2013	None
Rashmi Arora	Quantum phase transitions in the shape of atomic nuclei	Completed	2013	None
Surbhi Pandit	Random matrices and chaos in nuclear physics	Completed	2013	None
Poonam Kumari	Gutzwiller trace formula and its applications	Completed	2012	None
Poonam Chandel	Review of trace formula for 2D equilateral triangle billiard	Completed	2012	None
Sandeep Kumar	Nuclear shell model and it's applications to calcium isotopes	Completed	2011	None
Jaspreet Kaur	Chaos and the nuclear model	Completed	2010	None
Balbir Kaur	A review on neutrino properties, neutrino oscillation and solar neutrino problem	Completed	2010	None
Mandeep Kaur	The Hartree Fock theory and its applications	Completed	2009	None
Arvind Kumar	Pair correlation in nuclei : A BCS model	Completed	2009	None
Navdeep	The shell model as a unified view of nuclear structure	Completed	2008	None
Keerti	Neutrino-less double beta decay	Completed	2008	None
Neeraj	Determination of Nuclear masses	Completed	2008	None

### Admin. Responsibilities :

Position Held	Organization	From	To
Member, industry institute partnership cell and continuing education	Dr.B.R. Ambedkar N.I.T, Jalandhar	July 2002	June 2003
Member of the committee for preparation of Prospectus and curriculum book	Dr.B.R. Ambedkar N.I.T, Jalandhar	July 2001	June 2002
Member, Purchase Committee	Dr.B.R. Ambedkar N.I.T, Jalandhar	30.4.2003	1.4.2004
Member, Purchase Committee	Dr.B.R. Ambedkar N.I.T, Jalandhar	1.12.2005	31.12.2005
Faculty Incharge, Game: Chess	Dr.B.R. Ambedkar N.I.T, Jalandhar	July, 2005	July,2006
Member, Purchase Committee	Dr.B.R. Ambedkar N.I.T, Jalandhar	1.7.2006	31.7.2006
Academic Counselor: Physics for 2007 batch students	Dr.B.R. Ambedkar N.I.T, Jalandhar	2007	2011
Member, Board of Studies of Department of Physics, NIT, Jalandhar	Dr.B.R. Ambedkar N.I.T, Jalandhar	1998	till date

Member, Board of Rajbhasha Samiti, NIT, Jalandhar.	Dr.B.R. Ambedkar N.I.T, Jalandhar	2008	2009
Executive Member, Alumni Association of NIT, Jalandhar	Dr.B.R. Ambedkar N.I.T, Jalandhar	2008	2009
Member, Purchase Committee	Dr.B.R. Ambedkar N.I.T, Jalandhar	1.9.2008	30.10.2008
Academic Counselor: Physics for 2009 batch students.	Dr.B.R. Ambedkar N.I.T, Jalandhar	2009	2013
Member M.Sc. and Ph.D. Admission Committee of Department of Physics, NIT, Jalandhar	Dr.B.R. Ambedkar N.I.T, Jalandhar	2006	till date
Member, Purchase Committee	Dr.B.R. Ambedkar N.I.T, Jalandhar	01.05.2011	31.05.2011
Head, Department of Physics, NIT, Jalandhar	Dr.B.R. Ambedkar N.I.T, Jalandhar	05.09.2012	04.09.2014
Academic Counselor: Physics for 2018 batch students	Dr.B.R. Ambedkar N.I.T, Jalandhar	2018	2019
Associate Dean (Faculty Welfare)	Dr. B. R. Ambedkar N.I.T, Jalandhar	24-01-2019	05.02.2020
Chairman, Hindi Cell (Rajbhasha)	Dr. B.R. Ambedkar N.I.T, Jalandhar	02.03.2021	till date
Head, Department of Physics	Dr. B.R. Ambedkar N.I.T, Jalandhar	16.02.2023	till date

### Award and Honours :

Title	Activity	Given by	Year
Senior Research Fellowship	Research Work, Delhi University, Delhi	DAE-BRNS	1989