

**POST GRADUATE DEPARTMENT OF PHYSICS  
UNIVERSITY OF KASHMIR, SRINAGAR**



**Selected Publications of the Department (2002-2013)**

**2013**

1. Structure of nearly degenerate dipole bands in  $^{108}\text{Ag}$ , J.Sethia, R.Palita, S. Saha, T.Trivedi, G.H.Bhat, J.A.Sheikh et al. Physics Letters B 725 (2013) 85–91.
2. Multi-phonon gamma-vibrational bands in  $^{108}\text{Mo}$  nucleus, G. H. Bhat, J. A. Sheikh, P. A. Ganai, Y. Sun, and R. Palit Proceedings of the International DAE Symp. on Nucl. Phys. 58 (2013)
3. Investigation of doublet-bands in  $^{124,126,130,132}\text{Cs}$  odd-odd nuclei using triaxial projected shell model approach, G.H.Bhat,\* R.N.Ali, J.A.Sheikh, R.Palit Nuclear Physics A 922 (2013) 150–162.
4. Projected shell model study of quasi particle structure of arsenic isotopes, Preeti Verma, Chetan Sharma, Suram Singh, ArunBhartia, S.K.Khosa, G.H.Bhat, J.A.Sheikh, Nuclear Physics A 918 (2013) 1–24..
5. Nature of chiral symmetry in  $^{134}\text{Pr}$  nucleus, G. H. Bhat, J. A. Sheikh, W. A. Dar, and R. Palit Proceedings of the International DAE Symp. on Nucl. Phys. 58 (2013)
6. Description of the Chiral Doublet Bands in Nd nucleus, G. H. Bhat, J. A. Sheikh, Y. Sun, and R. Palit Proceedings of the International DAE Symp. on Nucl. Phys. 58 (2013) 9.
7. Isospin Invariant Skyrme Density Functional Approach, J.A. Sheikh, N. Hinohara and W. Nazarewicz, Proceedings of the International DAE Symp. on Nucl. Phys. 58 (2013)

8. Triaxial projected shell model study of  $^{109}\text{Tc}$  nucleus, W. A. Dar, R. N. Ali, S. Jehangir, P. Javid, P. A. Ganai, G. H. Bhat and J. A. Sheikh, Proceedings of the International DAE Symp. on Nucl. Phys. 58 (2013)
9. Triaxial projected shell model study of  $^{178-186}\text{W}$  nuclei G. H. Bhat, J. A. Sheikh, P. A. Ganai, W. A. Dar, R. N. Ali, S. Jehangir, and P. Javid, Proceedings of the International DAE Symp. on Nucl. Phys. 58 (2013)

## 2012

1. G.H. Bhat; J.A. Sheikh; R. Palit; Triaxial projected shell model study of chiral rotation in odd – odd nuclei Physics Letters B 707 (2012) 250 – 254
2. Naseer Iqbal, Naveel Ahmad, Mubashir Hamid and Tabasum Masood; Correlation functions for extended mass galaxy clusters. Mon. Not. R. Astron. Soc , MNRAS Letters (L1 – L3) 2012 doi:10.1111/j.1745-3933.2012.01281 (impact factor = 4.88 )
3. G. H. Bhat, J. A. Sheikh, Y. Sun, and U. Garg Triaxial projected shell model study of the rapid changes in  $B(E2)$  for 180–190Pt isotopes PHYSICAL REVIEW C **86**, 047307 (2012)
4. G. H. Bhat, J. A. Sheikh, P. A. Ganai, Yang Sun Quasiparticle band structures in transitional nuclei Proceedings of the DAE Symp. on Nucl. Phys. **268**, 57 (2012)
5. G. H. Bhat, W. A. Dar, J. A. Sheikh, P. A. Ganai . Multi-phonon gamma vibrational bands in odd-proton  $^{107}\text{Tc}$  nucleus Proceedings of the DAE Symp. on Nucl. Phys. **266**, 57 (2012)
6. J. Sethi, R. Palit, S. Saha, T. Trivedi, **G. H. Bhat**, J A. Sheikh et al Structure of  $^{108}\text{Ag}$  at Low and Medium Spin Proceedings of the DAE Symp. on Nucl. Phys. **288**, 57 (2012)

## 2011

1. Yeoh, E. Y., Zhu, S. J., Hamilton, J. H., Li, K., Ramayya, A. V., Liu, Y. X., Hwang, J. K., Liu, S. H., Wang, J. G., Sun, Y., Sheikh, J. A., Gowhar, H. B. Luo, Y. X. et al., High-spin structure and multiphonon  $\gamma$ -vibrations in very neutron-rich  $^{114}\text{Ru}$  2011, Phys. Rev. C 83, 054317 (**impact factor = 3.461**)
2. Maqbool, I., Sheikh, J. A., Ganai, P. A., and Ring, P. 2011, Particle-Number Projected Hartree-Fock-Bogoliubov Study with Effective Shell Model Interactions J. Phys. G 38, 045101 (**impact factor = 2.124**)
3. Mohsin, M. K., Bari, W., Azim M. D., Gaur, V., Khan, A. R., Zafar, M., and Irfan, M., 2011, Indian J. Phys. 85, 195 Sebiha, R., Sing, R. C., Pivin, J. C., Bari, W. and Sing F., Accepted in vacuum (**impact factor =1.048**)
4. Manzoor, A. M., Raja, N. A., and Ahmad, F., 2011, Spatial Galaxy Distribution function for a Three-component system Astrophysics and Space Sciences 336, Issue 2, .447 (**impact factor = 1.404**)
5. Sheikh, J. A., Gowhar, H. B., Yan-Xin Liu, Frag-Qi Chen, and Yang Sun, 2011, Mixing of quasi-particle excitations and gamma-vibrations in transitional nuclei, [Phys. Rev. C 84,054314](#) (**impact factor = 3.461**)
6. N. Schunck, J. Dobaczewski, J. McDonnell, W. Satula, J.A. Sheikh, A. Staszczak, M. Stoitsov, and P. Toivanen, 2011, Solution of the Skyrme-Hartree-Fock-Bogolyubov equations in the Cartesian deformed harmonic-oscillator basis, Comp. [\(Phys. Commun. 83 166](#) (**impact factor 2.3**)
7. A Baran , J. A. Sheikh, J.Dobaczewski, W.Nazarewicz , and A. Staszczak, 2011, Quadrupole Collective inertia in nuclear fission: Cranking approximation, [Phys. Rev. C 84, 054321 \(2011\)](#) (**impact factor = 3.461**)
8. Sebiha, R., Singh, R. G., Pivin, J. C., Bari, W., Sing, F., 2011, Structure and spectroscopic modifications of nanocrystalline zinc oxide films induced by swift heavy ions, Vacuum, 86, 87-90 (**impact factor = 1.048**)
9. Chaudhuri, H. Bari, W., et al., 2011, Geochemical Journal 45, 137
10. Iqbal, N., Khan, M. S., and Masood T., 2011, Entropy Changes in the Clustering of Galaxies in an Expanding Universe Journal of Natural science, 3: 63-66.
11. Gowhar. H. B, Sheikh, J. A. , Prince, A. G, Palit, R., and Sun, Y., 2011, Triaxial projected shell model study of gamma-vibrational bands in odd-

neutron  $^{105}\text{Mo}$  nucleus, Proceedings of the DAE Symp. on Nucl. Phys. 56, 194-195

12. Gowhar. H. B, Sheikh, J. A. , Palit, R., Prince, A. G, 2011, Study of chiral rotations in  $^{126}\text{Cs}$  nucleus, Proceedings of the DAE Symp. on Nucl. Phys. 56, 238-239
13. Gowhar. H. B, Sheikh, J. A. Prince, A. G, , Palit, R., 2011, Systematics of yrast band transition probabilities for  $^{158-166}\text{Er}$  isotopes, Proceedings of the DAE Symp. on Nucl. Phys. 56, 238-239

## **2010**

1. Sheikh, J. A., Gowhar, H. B., Sun, Y., Palit, R. 2010, Multi-phonon -vibrational bands in odd-mass nuclei studied by triaxial projected shell model approach Phy. Lett. B 688: 305-308 (**impact factor = 5.255**)
2. Pei, J. C., Nazarewicz, W., Sheikh, J. A., and Kerman, A. K. 2010, Fission barriers and neutron gas in compound superheavy nuclei Nucl. Phys. A 834: 381c (**impact factor = 1.986**)
3. Trivedi, T., Palit, R., Neg, D., Naik, Z., Yang, Y.-C. , Sun, Y., Sheikh, J. A., et al., 2010, Lifetime measurement of high spin states in  $^{75}\text{Kr}$  Nucl. Phys. A 834: 72c (**impact factor = 1.986**)
4. Saslaw, W. C. and Ahmad, F., 2010, Phase Transitions in Gravitational Cosmological Manybody System Ap J 720: 1246-1253 (**impact factor = 7.436**)
5. Ahmad, F. And Hameeda, 2010, Fluctuation of Non-point Mass Galaxy Distribution Astrophysics and Space Science, 330, 227-235 (**impact factor = 1.404**)
6. Ahmad, F., Abdul, W., and Aijaz, A., 2010, Clustering of Non-point Mass System of Galaxies in the Expanding Universe, Astrophysics and Space Science 330, 115-121 (**impact factor = 1.404**)

## **2009**

1. Sheikh, J. A., Gowhar, H. B., Palit, R., Naik, Z., and Sun, Y., 2009, Multi-quasiparticle -band structure in neutron-deficient Ce and Nd isotopes, Nucl. Phys. A 824, 58 (**impact factor = 1.986**)
2. Baran, A., Sheikh, A. J., Staszczaka, A., and Nazarewicz, W., 2009, Fission quadrupole mass parameters in HF+BCS and HF methods, Int. J. Mod. Phys. E18 1049 (**impact factor = 1.351**)
3. Baran, A., Sheikh J. A., and Nazarewicz, W., 2009, Adiabatic mass parameters for spontaneous fission, Int. J. Mod. Phys. E18, 1054 (**impact factor = 1.351**)
4. Pei, J. C., Nazarewicz, W., Sheikh, J. A. and Kerman, A. K., 2009, Fission Barriers of Compound Superheavy Nuclei, Phys. Rev. Lett. 102, 192501 (**impact factor =7.621**)
5. Sheikh, J. A., Nazarewicz, W. and Pei, J. C., 2009, Systematic Study of Fission Barriers of Excited Superheavy Nuclei Phys. Rev. C (Rapid Comm.) 80, 011302(R) (**impact factor = 3.461**)
6. Ahmad, F., Abdul, W., Manzoor, A. M., and Sajad, M., 2009, Extended Structure of Galaxies and Cosmic Energy Equation Int. J. Mod. Phys. D,18, No. 1, 119 (**impact factor = 1.968**)
7. Manzoor, A. M., Ahmad, F., Shakeel, A., and Sajad, M., 2009, Statistical Mechanics of Galaxy Clustering for a Two-component System: Effect of Extended Nature of Galaxies Int. J. Mod. Phys. D, 18, No. 6, 1 (**impact factor = 1.968**)
8. Ganai, P. A., Sheikh, J. A., Maqbool, I., and Singh, R. P., 2009, Temperature and angular momentum dependence of the quadrupole deformation in sd-shell, Pramana Journal of Physics 73, 847(**impact factor = 0.561**)
9. Iqbal, N., Vahia, M. N., Ahmad, A., and Masood, T., 2009, The Prehistoric Meteor Shower recorded on a Palaeolithic rock. NRIAG Journal of Astronomy and Astrophysics 38, 469-475
10. Vakil, G. B., and Jamwal, K. K. S., 2009, Dielectric and polymer Material Properties for Microwave Antenna Applications Physical Science 21, 3 (**impact factor =0.0376**)
11. Manzoor A. Malik Statistical Mechanics of the Cosmological Many-body Problem, Proc. American Institute of Physics, **1150**, 252, 2009

## 2008

1. Sheikh, J. A., Gowhar, H. B., Sun, Y., Gowher, B. V., and Palit, R. 2008, Triaxial projected shell model study of gamma-vibrational bands in even-even Er isotopes Phys. Rev. C77, 034313 (**impact factor = 3.461**)
2. Datta, P., Roy, S., Pal, S., Chattopadhyay, S., Bhattacharya, A., Goswami, M., Saha, S., Sheikh, J. A., Sun, Y., et al., 2008, Abrupt change of rotation axis in  $^{109}\text{Ag}$  Phys. Rev. C (Rapid Comm.) 78, 021306(R) (**impact factor = 3.461**)
3. Basharat, W., Ahmad, F., and Kotru, P. N., 2008, Magnetic Moment Measurements of gadolinium, Holmium and Ytterbium Tartrate Trihydrate Crystals J. Alloys. Comp; 448, L5 (**impact factor = 1.25**)
4. Sheikh, J. A., Ganai, P. A., Singh, R. P., Bhowmick, R., K. and Frauendorf, S., 2008, Shell model study of pairing correlations Phys. Rev. C55, 014303 (**impact factor = 3.461**)
5. Sun, Y., Long, G. L., Al-Khudair, F., and Sheikh, J. A., 2008, Gamma-vibrational states in superheavy nuclei Phys. Rev. C 77, 044307 (**impact factor = 3.461**)
6. Masood, S., Manzoor, A. M., and Shakeel A., 2008, Physical form of the Clustering Parameter and Gravitational Galaxy Clustering Elec. J. Th. Physics, 5, No. 17, 77
7. Rather, N. A., and Simnani S. A., 2008, A remark on a generalization of Enestron-Kakeya Theorem Journal of analysis Computation, 3 No. 1, 53-61
8. Jamwal, K. K. S., Vakil, G. B., Maqbool I., and Gowhar, H. B., 2008, Temperature Stabilized LED/LD Drive Circuits for Optical fibre communications Journal of Optics 37, 110
9. Selim, I., Iqbal, N., 2008, Stability of Hickson groups of galaxies. Turkish Journal of Physics 32, 133-136.

## 2007

1. Dar, P. A., Devi, R., Khosa, S. K., and Sheikh J. A., 2007, Microscopic study of yrast band structures in 66-72Ge isotopes Phys. Rev. C 75, 054315-054323 (**impact factor = 3.461**)
2. Bian, B. A., Di, Y. M., Long, G. L., Sun, Y., Zhang, J., and Sheikh, J. A., 2007, Systematics of g factors of 21+ states in even-even rare earth nuclei from Gd to Pt: A microscopic description by the projected shell model Phys. Rev. C 75, 014312 (**impact factor = 3.461**)
3. Want, B., Ahmad, F., and Kotru, P. N., 2007, Single Crystal Growth and Characterization of Holmium Tartrate Trihydrate J. Cryst. Growth, 299, 336 (**impact factor = 1.85**)
4. Basharat, W., Ahmad, F., and kotru, P. N., 2007, Dielectric and Thermal Behavior of Gel Grown Ytterbium Tartrate Trihydrate Crystals, J. Mater. Sci. 42, 9324-9330 (**impact factor = 2.32**)
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6. Masood, S., Simnani S. A., and Manzoor, A. M., 2007, The fluctuation Theory and Gravitational Galaxy clustering Turk J. Phys, 31, 67
7. Mir, S. A., Naseer I., Bari, W., Das, N. K., Bhandari, R. K., Ghosh, D., S., Prasanta, and Bikash, S., 2007, Radon times series measurement facility for Seismotectonic observations at Tatapani Jammu, Geochemical Precursors for Earthquake predictions, Macmillan advanced series, 171- 176.ISBN 0230-63262

## 2006

1. K. Singh, S. Sihotra, S.S. Malik, J. Goswamy, D. Mehta, N. Singh, R.P. Singh, S. Muralithar, E.S. Paul, J.A. Sheikh and C.R. Praharaj, Rotational structures in the  $^{125}\text{Cs}$  nucleus, Eur. Phys. J. A27 (2006) 321
2. Basharat, W., Ahmad, F., and Kotru, P. N., 2006, Crystal Growth Characterization of Gadolinium Trihydrate:  $\text{Gd}(\text{C}_4\text{H}_4\text{O}_6)(\text{C}_4\text{H}_5\text{O}_6)\cdot 3\text{H}_2\text{O}$  Mater. Sci. and Engg A, 431, 237 (**impact factor = 1.56**)
3. Ahmad F., Saslaw, W. C., and Manzoor, A. M., 2006, Statistical Mechanics of the Cosmological Many- body Problem-II: Results of Higher Order Contributions Ap. J., 645, 940 (**impact factor = 7.436**)
4. Ahmad, F., Manzoor, A. M., and Masood, S., 2006, Distribution Function of Galaxies for two component system Int. J. Mod. Phys. D, 15, No 8,1267 (**impact factor =1.968**)
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6. Naseer I., Farooq A., and Khan, M. S., 2006, Gravitational Clustering of Galaxies in an Expanding universe Journal of Astronomy and Astrophysics (JAA Springer) 27,373 (**impact factor = 0.531**)
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8. Jamwal, K. K. S., Maqbool, I., and Vakil, G. B., 2006, gain-Radiation characteristics of Dielectric loaded Horn antennas APSYM 04 Vol 9 page 161

## **2005**

- 1 Sheikh, J. A., Palit, R., and Frauendorf, S., 2005, Re-appearance of the pairing correlations at finite temperature Phys. Rev. C (Rapid Comm.) 71, 04130(R) (**impact factor = 3.461**)

## **2004**

- 1 Sheikh, J. A., and Sun, Y., 2004, Chaos and rotational damping in



particle-rotor model Nucl. Phys. A733, 67 (**impact factor = 1.986**)

- 2 Kaye, R. A., Grubor-Urosevic, O., Tabor, S. L., Doring, J., Sun, Y., Palit, R., Sheikh, J. A., et al., 2004, Collective excitations and shape changes in 80Y Phys. Rev. C 69, 064314 (**impact factor = 3.461**)

### **2003**

1. Palit, R., Sheikh, J. A., Sun, Y., and Jain, H. C., 2003, Projected shell model study of odd-odd  $f - p - g$  shell proton-rich nuclei Phys. Rev. C67, 014321 (**impact factor = 3.461**)
2. Frauendorf, S., Kuzmenko, N. K., Mikhajlov, V. M., and Sheikh, J. A., 2003, Temperature-induced pair correlations in clusters and nuclei Phys. Rev. B68, 024518 (**impact factor = 3.772**)

### **2002**

1. Ahmad, F., Saslaw, W. C., and Iqbal, N., 2002 Statistical Mechanics of the Cosmological Many- body Problems , Ap. J. 573, 576 (**impact factor = 7.436**)
2. Sheikh, J. A., et al., 2002, Pairing correlation and particle number projection method Phy. Rev. C 66, 044318.(**impact factor = 3.461**)
3. Sun, Y., Sheikh, J. A., 2002, Nuclear magnetic dipole properties and triaxial deformation, Phys. Lett. B 533, 255 (**impact factor = 5.255**)
4. Boutackove, P., Aprahamian, A., Sun, Y., Sheikh, J. A., and Frauendorf, S., 2002, In-Band and Inter-Band B(E2) value within TPSM model, Eur. Phys. J. A 15, 455 (**impact factor = 1.06** )