RECENT TRENDS IN NUCLEAR STRUCTURE AND ITS IMPLICATION TO NUCLEAR ASTROPHYSICS

January 04-08, 2016

IOP & TIFR

BLUE LILY, PURI

INDIA

Programme

04-01-2016

09:00-09:30	Registration	
09:30-10:00	Welcome Address by **Director, IOP**	
	Chair : S. Panda	
10:00-10:30	**L. Satpathy**	**Infinite nuclear matter model and mass formulae for nuclei**
10:30-11:00	Tea	
	Chair : A.K. Jain	
11:00-11:30	**P. Chowdhury**	**Towards Superheavies: Excitations built on the highest neutron orbital**
11:30-12:00	**Javid Sheikh**	**Modern Nuclear structure models: Chiral symmetry, wobbling motion and gamma band**
12:00-12:30	***M. S. Sarkar***	**Studies in Nuclear Structure relevant to Astrophysics: theoretical and experimental efforts**
12:30-13:00	**C. Bhattacharya**	**Recent studies on Hoyle state decay**
13:00-14:00	*Lunch*	
	Chair : V. Nanal	
14:00-14:30	**G. Gangopadhyay**	**Radiative capture in medium mass region: Astrophysical importance**
14:30-15:00	**G. Iulian Stefan**	**Quasi-bound low energy tail of resonances**
15:00-15:30	**R. Chatterjee**	**Structure effects in low energy radiative capture reactions**
15:30-15:45	Tea	
	Chair : A. Goswami	
15:45-16:15	**A. Jhingan**	**Charged particle detectors in nuclear structure studies**
16:15- 16:45	**P. P. Singh**	**On the road to FAIR: a few snapshots from PreSPEC experiments**

05-01-2016

Chair : S. Muralidhar

09:00-09:30	**R. P. Singh**	**Nuclear structure studies with INGA at IUAC and future possibilities**
09:30-10:00	**S. Chattopadhyay**	**Nuclear structure effects in Ag isotopes**
10:00-10:30	**S. S. Ghugre**	**Practicing DSAM in Aberrant Domain: Motivation, Method & Measurements**
10:30-11:00	**Sudipta Saha**	**Simulation of TIFR-INGA array: present and future possibilities**
11:00-11:30	Tea	

Chair : N. Madhavan

11:30-12:00	**D. C. Biswas**	**Nuclear shapes from Fission Fragment Spectroscopy studies**
12:00-12:30	**Pragya Das**	**Signature inversion: precursor to the back bending in ^{126}I**
12:30-13:00	**Sujit Tandel**	**Structure of Pt isotopes along the line of stability**
13:00-14:00	Lunch	

Chair : A. Saxsena

14:00-14:30	**I. Mazumdar**	**Nuclear physics with low-energy light ions: Fundamental & Applied**
14:30-15:00	**C. Michelagnoli**	**New challenges in nuclear structure and nuclear astrophysics using gamma-ray tracking technique**
15:00-15:30	**S. Muralithar**	**Magnetic and Anti-magnetic rotation in nuclei**
15:30-16:00	**Rajarshi Raut**	**Open Up the Heavens: Nuclear Astrophysics with Gamma-ray Beams**
18:30-20:00	**Discussion session on future facilities for nuclear theory**	

06-01-2016

Chair : P.K. Rath

09:00-09:30	**X. Vinyas**	**Unified equation of state for neutron stars on a microscopic basis**
09:30-10:00	**U. Garg**	**Nuclear Incompressibility and "Fluffiness" of Open-Shell Nuclei**
10:00-10:30	**B. Agrawal**	**Sensitivity of symmetry energy content of nuclear matter to the properties of neutron rich systems**
10:30-11:00	**S. K. Biswal**	**Collective excitation in relativistic thomas fermi formalism**
11:00-11:30	Tea	

Chair: A. K. Sinha

11:30-12:00	**N. Madhavan**	**Angular momentum distributions and nuclear structure studies tagged by HYbrid Recoil mass Analyzer (HYRA) at IUAC**
12:00-12:30	**C. Ghosh**	**GDR study in 28Si+124Sn reaction at low temperature**
12:30-13:00	**M. Bhuyan**	**The surface properties of drip-line nuclei at N=50**
13:00-14:00	Lunch	

Chair : R.G. Pillay

14:00-14:30	**A. Goswami**	**FRENA: An upcoming facility for Nuclear Astrophysics; Capabilities and Potentials**
14:30-15:00	**S. Mandal**	**Nustar - DEGAS and Indian Participation**
15:30-16:00	**S. Santra**	**Reactions involving weakly bound stable projectiles and its implication in astrophysics**
16:00-16:30	**T. Trivedi**	**Neutron-Induced Reaction Cross-Section Measurements for Nuclear Astrophysics using 3 MV Particle Accelerator**
18:30-20:00	**Discussion session on future experimental facilities for nuclear structure**	

07-01-2016

Chair : A.K. Mohanty

09:00-09:30	**S.N. Mishra**	**Measuring electromagnetic moments in nano second isomers**
09:30-10:00	**Suresh Kumar**	**Beautiful phase of Nuclear Rotation in Transitional Nuclei: a competition between special coupled few nucleons and collective system**
10:00-10:30	**Z. Naik**	**Investigation of High Spin Structure of N~28 Nuclei with PHF model**
10:30-11:00	**Ahmad Ansari**	**Structure of first excited 2^+ states of Tin Isotopes in Relativistic QRPA**
11:00-11:30	Tea	

Chair : S.N. Mishra

11:30-12:00	**S. Bhattacharya**	**Neutron rich nuclei around ^{132}Sn**
12:00-12:30	**Sayani Biswas**	**Structure of ^{132}Te: The Two-Particle and Two-Hole Spectrum of ^{132}Sn**
12:30-13:00	**B. Maheswari**	**Generalized seniority and Shell model calculations in n-deficient to n-rich Sn isotopes**
13:00-14:00	Lunch	

Chair: C.R. Praharaj

14:00-14:30	**P. Stevenson**	**The time-dependent nuclear mean-field and its astrophysical applications**
14:30-15:00	**P. K. Panda**	**Pasta in QMC model**
15:00-15:30	**C. Lahiri**	**Study of proton capture reactions for astrophysically important *p* nuclei with different *NN* potentials in A~100-120 region.**
15:30- 16:00	**S. Roy**	**Comparison between experiment and theory for nuclear structure phenomena at extremes**
16:00-16:30	**J. Sadhukhan**	**A new model for spontaneous fission mass and charge distribution and its applicability to nuclear astrophysics**

08-01-2016

Chair : P. Chaudhury

09:00-09:30	**Eiji Ideguchi**	**Study of shape evolution in neutron-rich A ≈ 150 nuclei and CAGRA project at RCNP**
09:30-10:00	**Gopal Mukherjee**	**Importance of high-j orbitals in the high-spin structure of nuclei around the stability line**
10:00-10:30	**Purnima Singh**	**Study of the level structure of ^{66}Cu**
10:30-11:00	**Naqvi Farheen**	**First total-absorption spectroscopy measurement on the neutron-rich Cu isotopes**
11:00-11:30	Tea	

Chair : R.N. Mishra

11:30-12:00	**P.K. Raina**	
12:00-12:30	**Vandana Nanal**	**Neutrinoless Double Beta Decay**
12:00-13:00	**P. K. Rath**	**Nuclear Transition Matrix Elements and Neutrino Mass**
13:00-14:30	Lunch	

Chair : P.K. Raina

14:30-15:00	**R.N. Mishra**	**Structure of Neutron Stars in a Modified Quark-Meson Coupling Model**
15:00-15:30	**P. Arumugam**	**Microscopic description of proton emitters relevant to astrophysics**
15:30-16:00	**Concluding remarks**	