

Programme of the 17th Nuclear Physics Workshop

Wednesday, 22nd Sept.

16.00–16.05 Opening of the Workshop (Coffee will be served from 15.45)

Afternoon session: Algebraic models

16.05–16.40 Stanisław Szpikowski (Lublin), *Memories of B.H. Flowers (1924-2010) and of J.P. Elliott (1929-2008)*

16.40–17.15 Pieter Van Isacker (GANIL/Caen), *Partial conservation of seniority in nuclei*

17.15–17.50 Andrzej Gózdź (Lublin), *Symmetries in the intrinsic frame*

18.00 Dinner

Algebraic models cont.

19.00–19.20 Lorenzo Fortunato (Trento), *Odd nuclei and shape phase transitions: the role of the unpaired fermion*

19.20–19.40 Pavel Cejnar (Prague), *Symmetry versus chaos in collective dynamics: Signatures and consequences*

19.40–20.00 Dominique Curien (Strasbourg), *In Search for the Tetrahedral Symmetry in the Actinides: a possible experimental proof through the Elma Project*

20.00–20.20 Nikolay Minkov (Sofia), *Parity effects in nuclear collective and single particle motion*

20.20–20.55 Piotr Magierski (Warsaw), *Spontaneously broken symmetries in nuclear systems — are there any?*

21.15 Welcome reception

Thursday, 23rd Sept.

8.00 Breakfast

Morning session: Mean field theory, restoration of symmetries

9.00– 9.35 Peter Ring (Garching), *Microscopic Theory of Quantum Phase Transitions in Finite Nuclei*

9.35–10.10 Wojciech Satuła (Warsaw), *Isospin mixing phenomena in the vicinity of $N = Z$ line*

10.10–10.30 Ludovic Bonnaeu (Gradignan), *Magnetic and isospin properties of deformed odd-mass nuclei within the Higher Tamm-Dancoff approximation*

10.30–10.50 Coffee-break

10.50–11.25 Michael Bender (Gradignan), *Regularization of Multi-Reference Energy Density Functional Calculations*

11.25–12.00 Thomas Duguet (CEA/Saclay), *Breaking and restoring symmetries within the nuclear energy density functional framework*

12.00–12.20 Julien Le Bloas (Gradignan), *Nuclear matrix element of Super-allowed Fermi transitions: Preliminary results in the HTDA framework*

12.20–12.55 Jan Kvasil (Prague), *Electric, Magnetic and Vorticity Strengths in Heavy Nuclei*

13.00 Lunch

Afternoon: Session devoted to the memory of Władysław Świątecki

- 15.00–15.20 William D Myers (Honolulu), *Introduction*
15.20–15.55 Jan Błocki (Świerk) & Alexander Magner (Kiev), *Chaos vs Order in Nuclei*
15.55–16.30 Jorgen Randrup (LBL, Berkeley), *Spinodal phase separation in nuclear collisions*
16.30–16.50 Coffee-break
16.50–17.25 Krystyna Siwek-Wilczyńska (Warsaw), *The Fusion by Diffusion Model Revisited*
17.25–17.45 Krzysztof Pomorski (Lublin), *Microscopic corrections at scission configurations when mass symmetry is broken*
17.45–18.20 Adam Sobiczewski (Warsaw), *Estimation of the inaccuracy of calculated fission-barrier heights of heavy nuclei*
18.20–18.40 Johann Bartel (Strasbourg), *Investigations on the breaking of left-right symmetry in light nuclei - the Poincare instability*
18.40–19.00 Michal Kowal (Warsaw), *Superdeformed Oblate Superheavy Nuclei?*
19.00 Dinner
19.45 Reminiscences of Władek's friends animated by Kazimierz Grotowski (Kraków) and Hans-Jurgen Krappe (Berlin)
21.15 Poster session

Friday, September 24, 2010

8.00 Breakfast

Morning session: Chirality in nuclei

- 9.00– 9.35 Jie Meng (Beijing), *Chirality in Atomic Nucleus*
9.35–10.10 Krzysztof Starosta (Vancouver), *Opportunities for collective model and chirality studies at TRIUMF*
10.10–10.30 Elena Lawrie (Cape Town), *Characteristics of two-quasiparticle chiral bands*
10.30–10.50 Coffee-break
10.50–11.25 Stanislaw G. Rohoziński (Warsaw), *Odd-odd nuclei as the core-particle-hole systems and chirality*
11.25–12.00 Ikuko Hamamoto (Lund), *Selection rule for electromagnetic transitions in the chiral geometry*
12.00–12.35 Ernest Grodner (Warsaw), ^{126}Cs — *first observation of a complete set of chiral gamma selection rules*
12.35–12.55 Shuangquan Zhang (Beijing), *Static chirality and chiral vibration of atomic nucleus in the triaxial particle rotor model*
13.00 Lunch

Afternoon session: Chirality (cont.), Microscopic theories of many-body systems

- 16.00–17.00 Unsolved problems and future of chirality studies,
discussion leader Stefan Frauendorf
17.00–17.20 Coffee-break

- 17.20–17.40 Elias Khan (Orsay), *Microscopic description of temperature, pairing and deformation effects in nuclei*
- 17.40–18.00 Marianne Dufour (Strasbourg), *Microscopic cluster model — Applications in light nuclei structure and astrophysics*
- 18.00–18.20 Herve Molique (Strasbourg), *Exotic nuclear forces studied within the mean field theory*
- 18.20–18.40 Xavier Vinyes (Barcelona), *Thomas-Fermi theory for pairing in finite number systems: the weak coupling regime*
- 18.40–19.00 Avazbek Nasirov (Dubna), *Appearance Of Nuclear Shell Effects And Initial Charge (Mass) Asymmetry in Formation of Products in Heavy Ion Collisions*
- 19.00 Barbecue

Saturday, 25th Sept.

8.00 Breakfast

Morning session: Deformation, symmetries and Coulomb excitation

- 9.00– 9.35 Emmanuel Clement (GANIL), *Experimental measurement of the deformation through the electromagnetic probe: Shape coexistence in exotic Kr isotopes*
- 9.35–10.10 Julian Srebrny (Warsaw), *Model independent determination of quadrupole deformation parameters from Coulomb excitation measurements*
- 10.10–10.30 Jarno van de Walle (Groningen), *Nuclear structure studies around $^{68-78}\text{Ni}$*
- 10.30–10.50 Coffee-break
- 10.50–11.25 Eckart Grosse (Rossendorf), *Symmetry Constraints for Nuclear Photon Strengths and their Importance for Nuclear Astrophysics and Nuclear Technology*
- 11.25–12.00 Katarzyna Wrzosek-Lipska (Warsaw), *Shape evolution in even-even Mo isotopes studied via Coulomb excitation*
- 12.00–12.35 Jouni Suhonen (Jyvaskyla), *Nuclear-Structure Related Issues of Double Beta Decays*
- 12.35–12.55 Tamara Nikšić (Zagreb), *Beyond the relativistic mean-field approximation: configuration mixing calculations*
- 13.00 Lunch

Afternoon session: Deformation, symmetries and Coulomb excitation cont.

- 15.30–16.05 Stefan Frauendorf (Notre Dame), *Tidal Waves — a non-adiabatic microscopic description of the yrast states in near-spherical nuclei*
- 16.05–16.40 Adam Hayes (Rochester), *New structures in ^{178}Hf and Coulomb excitation of isomers*
- 16.40–17.00 Katarzyna Hadyńska-Klęk (Warsaw), *Coulomb excitation of the presumably super-deformed band in ^{42}Ca — preliminary results from the first AGATA Demonstrator experiment*
- 17.00–17.20 Coffee-break
- 17.20–17.40 Jiangming Yao (Chongqing, China), *Configuration mixing of angular-momentum projected triaxial relativistic mean-field wave functions*

- 17.40–18.00 Milan Kr̄tička (Prague), *A Study of Scissors Mode of Excited Nuclei from (n,γ) reaction*
- 18.00–18.20 Zhipan Li (Beijing), *Nuclear Low-lying Spectrum and Quantum Phase Transition*
- 18.20–18.30 Closing of the Workshop
- 19.30 Conference dinner

Sunday, 26th Sept.

- 9.00 Breakfast
Excursion
- 13.00 Lunch

N.B. Time slots for talks include 5 min discussion.

Posters

- Andrzej Baran (Lublin), *Fission half lives of fermium isotopes within Skyrme Hartree-Fock-Bogoliubov theory*
- Marek Gózdź (Lublin), *Neutrino oscillations in strong gravitational fields*
- Piotr Jachimowicz (Zielona Góra), *Test of tetrahedral symmetry for heavy and superheavy nuclei*
- Takeshi Koike (Tohoku), *Chirality in the mass 80 region: ^{79}Kr*
- Jiří Kroll (Prague), *Photon Strength Functions of ^{160}Tb from the Two-Step Gamma Cascades Measurement*
- Zdzisław Łojewski (Lublin), *Spontaneous fission half lives in various macroscopic-microscopic models*
- Bożena Nerlo-Pomorska (Lublin), *Rotational States in Heaviest Nuclei*
- Daniel Peña Arteaga (Orsay), *Nuclear structure in strong magnetic fields: nuclei in the crust of a magnetar*
- Izabela Skwira-Chalot (Warsaw), *Isotopic effects in the emission of intermediate mass fragments in the $^{124}\text{Sn} + ^{64}\text{Ni}$ and $^{112}\text{Sn} + ^{58}\text{Ni}$ reactions at 35 MeV/nucleon*
- Andrzej Staszczak (Lublin), *Breakup of Axial and Reflection Symmetries in Fission Process*
- Agnieszka Szulerecka (Lublin), *Construction of O_h -symmetrized states for quadrupole–octupole collective model*
- Gabriel Wlazłowski (Warsaw), *Superfluid properties of dilute neutron matter*