



FUSTIPEN Topical Meeting

«Understanding light nuclei microscopically»

March 20-21, 2012, GANIL, Caen, France

Second circular

This meeting will review the status of structure and reactions studies in light nuclei with the emphasis on complementarity between different many-body methods and possible experimental opportunities. Light nuclei are unique laboratories where various many-body approaches can be tested rigorously. *Ab initio* calculations, such as the No Core Shell Model, have been applied successfully to calculate binding energies and spectra of light atomic nuclei. Weakly-bound and unbound nuclear states in light nuclei can be accurately described using the open quantum system formulation of the nuclear Shell Model, such as the Gamow Shell Model. A substantial development of Effective Field Theories allowed the first applications in light nuclei using the scale-dependent interactions from the underlying Quantum Chromodynamics.

We will discuss these issues in a topical two-day meeting, with an emphasis on possible links between experiment and theory, keeping the format informal. Those participants who would like to contribute to the discussion are invited to contact us at fustipen@ganil.fr.

The meeting at the GANIL Guesthouse is scheduled to start at 9:00 on Tuesday, March 20 and to finish around 17:00 on Wednesday, March 21.

There is no registration fee. The French-based physicists interested in the topic of the meeting can get the local support from the French FUSTIPEN grant.

Upon arrival at GANIL, you are requested first to contact the guardian at the entrance of GANIL and then proceed to the GANIL Guesthouse for the registration. Personal laptops will be able to connect to the wireless network.

All the information to reach GANIL can be found at the address:

http://fustipen.ganil.fr/practical/Practical_info.pdf

If you have any question concerning your arrival and stay in Caen, or your participation in the meeting, please do not hesitate to contact us at fustipen@ganil.fr.

Program of the Topical Meeting
«Understanding light nuclei microscopically»

Tuesday, March 20, 2011

9:00	Registration
9:25	Welcome
9:30 – 10:30	Marianne Dufour (IPHC Strasbourg) Microscopic cluster model - Applications in reactions of astrophysical interest and in light nucleus physics
10:30 – 11:00	Coffee break
11:00 – 12:00	Rimantas Lazauskas (IPHC Strasbourg) Application of the complex-scaling method in few-body scattering
12:00 – 13:00	Mario Gattobigio (INL Nice) Challenges in extending the Hyperspherical Harmonics approach up to $A=6$
13:00 – 14:15	Lunch
14:15 – 15:15	Bruce Barrett (University of Arizona) Beyond the No Core Shell Model: Extensions to Heavier Mass Nuclei
15:15 – 16:15	George Papadimitriou (University of Arizona) Gamow Shell Model description of weakly bound and unbound nuclear states
16:15 – 16:45	Coffee break
16:45 – 17:45	Olivier Sorlin (GANIL) Some experimental constraints to study nuclear forces at the drip line

Wednesday, March 21, 2011

- 9:30 – 10:30 Bira van Kolck (IPN Orsay & University of Arizona)
A Little Less Microscopically: halo nuclei through the lens of EFT
- 10:30 – 11:00 Coffee break
- 11:00 – 12:00 Jimmy Rotureau (Chalmers University Gothenburg)
Effective Field Theory for light nuclear systems
- 12:00 – 13:00 Simon Tölle (University of Bonn)
Few-boson systems in a harmonic trap
- 13:00 – 14:15 Lunch
- 14:30 – 15:30 Alexandre Obertelli (SPhN Saclay)
Direct reactions with unstable nuclei: extracting information from
nucleon removal reactions
- 15:30 – 16:00 Coffee break
- 16:00 – 17:00 Angelo Signoracci (SPhN Saclay)
Spectroscopic factors and ESPE from renormalized interactions
- 17:00 End of the Meeting

To register for the meeting, please fill in the registration form

http://fustipen.ganil.fr/Conferences/2012/Light2012/Registration_form

We are asking even those holding a GANIL badge to register so that an accurate count can be obtained for the coffee breaks.

We hope to see you soon at GANIL at the occasion of this topical meeting.

Bruce R. Barrett (University of Arizona)

Marek Ploszajczak (GANIL)

E-mail: fustipen@ganil.fr