



FUSTIPEN Topical Meeting

«Recent Advances in the Nuclear Shell Model»

June 19-20, 2014, GANIL, Caen, France

Second circular

The traditional nuclear shell model, involving a limited number of active nucleons acting over a limited set of single-particle orbitals, has been extremely successful in providing a microscopic description of nuclear properties across the periodic table. Despite its long history, major advances in the subject continue to be made.

We propose to hold a two-day workshop to discuss some of the key recent advances and to point the way to future study. Key themes of the workshop will include the evolution of shell structure with neutron and proton number, the description of coexistence near closed shells, the effective interaction between nucleons (one- and two-body and beyond), the optimal choice of the shell model space, and symmetry tests carried out within the shell model. The workshop will include talks on recent theoretical developments in the field and on related experimental studies.

We invite those participants who believe that they can contribute to the discussion to contact us at fustipen@ganil.fr. In line with previous workshops of this kind, the format of the workshop will be kept informal with ample time for discussion.

The information to reach GANIL can be obtained 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.

The preliminary program of the meeting is as follows:

Program of the Topical Meeting
« Recent Progress in the Nuclear Shell Model »

Thursday, June 19, 2014

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| 9:30 | Registration |
| 9:45 – 10:00 | Welcoming remarks |
| 10:00 – 10:50 | Angela Gargano (INFN, Naples)
Shell-model calculations with modern realistic interactions |
| 10:50 – 11:10 | Coffee break |
| 11:10 – 12:00 | Frédéric Nowacki (Université de Strasbourg, IPHC)
Correlations along the N=Z line |
| 12:00 – 13:30 | Lunch |
| 13:30 – 14:20 | John Wood (Georgia Institute of Technology)
Coexistence |
| 14:20 – 15:10 | Alfredo Poves (Universidad Autónoma de Madrid)
Coexistence in the shell model and its SU(3) roots |
| 15:10 – 15:30 | Coffee break |
| 15:30 – 15:50 | Andrey Blazhev (University of Cologne)
A shell-model study of the light cadmium isotopes |
| 15:50 – 16:40 | Takaharu Otsuka (University of Tokyo)
TBA |
| 16:40 – 17:30 | Hubert Grawe (GSI, Darmstadt)
Monopole driven shell evolution – Experimental view on new and lost shells |
| 17:30 – 18:00 | Summary discussion |
| 20:00 | Conference dinner |

Friday, June 20, 2014

- 10:00 – 10:50 David Verney (IPNO, Orsay)
Structure evolution towards ^{78}Ni : challenges in the interpretation of hard-won data solved by simple means
- 10:50 – 11:10 Coffee break
- 11:10 – 12:00 Nadya Smirnova (Université Bordeaux 1)
Nuclear shell evolution and spin-tensor structure of effective interactions
- 12:00 – 13:30 Lunch
- 13:30 – 14:20 Kamila Sieja (Université de Strasbourg, IPHC)
Several recent shell-model results and their interest for nuclear astrophysics
- 14:20 – 14:50 Houda Naïdja (Université de Strasbourg, IPHC)
The spectroscopic properties of the very neutron-rich nuclei beyond ^{132}Sn within the shell model
- 14:50 – 15:10 Coffee break
- 15:10 – 16:00 Nicu Sandulescu (NIPNE, Bucharest)
Proton-neutron pairing and alpha-type quartet correlations: shell model versus mean field
- 16:00 – 16:50 David Jenkins (University of York)
Structure of proton-rich nuclei on and beyond the line of $N=Z$
- 16:50 – 17:50 Summary discussion

To register for the meeting, please fill in the [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.

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