

Pierre Morfouace

PhD student in nuclear physics

Education

- 2011-2014 **PhD student (Defense in September 2014)**, *Institut de Physique Nucléaire d'Orsay (IPNO)*, Study of the single-particle states in neutron-rich $^{69,71}\text{Cu}$ by means of $(d, ^3\text{He})$ transfer reaction. This is in the framework of the study of the structure evolution toward the very neutron-rich ^{78}Ni nucleus..
- 2011 **Magistère of fundamental physics**, *University Paris-Sud XI*, Orsay, France.
- 2010-2011 **Master 2 NPAC – Nuclear, Particles, Astroparticles and Cosmology**, *University Paris-Sud XI*, Orsay, France.
- 2009-2010 **Master 1 of fundamental physics**, *University Paris-Sud XI*, Orsay, France.
- 2008-2009 **Bachelor of fundamental physics**, *University Paris-Sud XI*, Orsay, France.
- 2007-2008 **Prep school, PC***, *Chateaubriand High school*, Rennes, France.
- 2006-2007 **Prep school, PCSI**, *Chateaubriand High school*, Rennes, France.
- 2006 **Baccalauréat**, *Saint Joseph High school*, Lamballe, France.

Training

- April 2010 to July 2010 **Research student**, *Institut de Physique Nucléaire*, Orsay, France.
Systematic study of the neutron drip-line within the Hartree-Fock mean field approach.
- April 2010 **Teaching training**, in *High school Saint Joseph*, Lamballe, France.
- May 2009 to July 2009 **Research student**, *Institut d'Astrophysique Spatiale*, Orsay, France.
Study of SOHO et CoRoT satellite's datas for stellar seismology.

Participation in experiments

- March 2013 **Split-pole experiment to study the $^{70}\text{Zn}(d, ^3\text{He})^{69}\text{Cu}$ transfer reaction in direct kinematics (NSI-47)**, *tandem*, Orsay, Second PhD experiment.
Spokesperson: P. Morfouace
- December 2012 **Neutron monopole drift towards ^{78}Ni investigated by decay spectroscopy**, *RIKEN*, Japan.
Spokesperson: M. Niikura
- September 2012 **Properties of low-lying intruder states in ^{34}Al and ^{34}Si sequentially populated in β -decay of ^{34}Mg** , *ISOLDE*, CERN.
Spokesperson: F. Negoita and S. Grévy
- Winter 2012 **Split-pole experiments related to astrophysical thematic such as the ^7Li problem**, *tandem*, Orsay.
Spokesperson: F. Hammache and N. De Séréville
- Spring 2012 **Chateau de crystal experiment to study the pygme resonance in ^{68}Ni (e611)**, *GANIL*, Caen.
Spokesperson: I. Matea

- June 2011 **MUST2 and SPEG experiment to study the α -clustering in ^{40}Ca and ^{40}Ar (e582), GANIL, Caen.**
Spokesperson: J.-A Scarpaci
- April 2011 **MUST2 experiment to study the $^{72}\text{Zn}(d, ^3\text{He})^{71}\text{Cu}$ in inverse kinematics (e552), GANIL, Caen, First PhD experiment.**
Spokesperson: S. Franchoo

Conference and paper

Conference

- July 2014 **Oral presentation, Nuclear Structure 2014**, Vancouver, Canada.
- July 2014 **Oral presentation, DREB 2014**, Darmstadt, Germany.
- September 2013 **Oral presentation, Colloque GANIL**, France.
- September 2013 **Poster presentation, XXXIII Mazurian Lakes Conference On Physics**, Poland.
- July 2012 **Poster presentation, Nuclear Structure and Dynamics in Opatija**, Croatia.

Paper (first author)

- 2014 **Single-particle strength in neutron-rich ^{69}Cu** , *Acta Physica Polonica B*, Vol.45 No. 2.

Paper (in collaboration)

- 2014 **β -decay half-lives of $^{76,77}\text{Co}$, $^{79,80}\text{Ni}$ and ^{81}Cu : Experimental indication of a doubly magic ^{78}Ni** , *Physical Review Letters*, Vol.113, 032505.
- 2014 **Nucleosynthesis of ^{26}Al in massive stars: New ^{27}Al states above α and neutron emission thresholds**, *Physical Review C*, Vol.89, 065805.
- 2013 **Search for new resonant states in ^{10}C and ^{11}C and their impact on the cosmological lithium problem**, *Physical Review C Rapid Communication*, Vol.88, 062803(R).

Teaching

- 2012-2014 **Classical mechanics in first year licence of physics**, *University Paris-Sud XI*, Orsay.
- 2011-2013 **Geometrical optics and classical mechanics in first year licence of biology**, *University Paris-Sud XI*, Orsay.
- 2004-2008 **Student job giving Math and Physics lessons.**

Skills

Informatics

- Programming C++, fortran
- Data analysis ROOT
- Simulation Geant4

Related to nuclear physics

- Experiment Test of detectors, electronics
- Shell model Code ANTOINE
- Reaction DWBA code such as DWUCK4, DWUCK5, FRESCO

Languages

mother tongue **French**
fluent **English**

Other

Associative Office member of D2I2 ("Docteur et Doctorant des Deux Infinis"): association which re-groups Doctors and PhD student of Nuclear Physics, Particles, Astrophysics and Cosmology in order to develop a network for the future.

Reference details

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