

## Andrea Pietro Pocar

Department of Physics, 418 Lederle Graduate Research Center  
710 North Pleasant Street, University of Massachusetts, Amherst, MA 01003, USA

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### Research interests

Experimental Nuclear and Particle Physics, with emphasis on Neutrino Physics:

- neutrino-less double beta decay
- solar neutrinos
- particle dark matter detection

### Professional preparation

Università degli Studi di Milano (Milan State University), Milan, Italy  
Princeton University, Princeton, NJ, USA

Laurea (1996)  
Ph. D. (2003)

### Employment

2009- Assistant Professor of Physics, University of Massachusetts, Amherst  
2004-2008 Research Associate of Physics, Stanford University  
2003-2004 Research Associate of Physics, Princeton University  
1997-1998 Research Associate of Physics, University of California, Santa Cruz

### Professional affiliations

- American Physical Society
- Società Italiana di Fisica (Italian Physical Society) (1994-1998)

### Selected publications

1. "A liquid xenon ionization chamber in an all-fluoropolymer vessel", EXO collaboration, F. LePort, A. Pocar et al., Nucl. Instr. Meth. A **578**, 409 (2007).
2. "Systematic study of trace radioactive impurities in candidate construction materials for EXO", EXO collaboration, D. Leonard et al. Nucl. Instr. Meth. A **591**,490 (2008).
3. "Observation of single collisionally cooled trapped ions in a buffer gas", EXO collaboration, M. Green et al., Phys. Rev. A **76**, 023404 (2007).
4. "A microfabricated sensor for thin dielectric layers", P. Fierlinger et al., Rev. Sci. Instr. **79**, 045101 (2008).
5. "A linear RFQ ion trap for the Enriched Xenon Observatory", EXO collaboration, B. Flatt et al., Nucl. Instr. Meth. A **578**, 399 (2007).
6. "The Borexino detector at the Laboratori Nazionali del Gran Sasso", Borexino Collaboration, G. Alimonti et al., submitted to Nucl. Instr. Meth. A.
7. "Direct Measurement of the  $7\text{Be}$  Solar Neutrino Flux with 192 Days of Borexino Data", Borexino Collaboration, C. Arpesella et al., Phys. Rev. Lett. **101**, 091302 (2008).
8. "First real time detection of  $^7\text{Be}$  solar neutrinos by Borexino", Borexino collaboration, C. Arpesella et al., Phys. Lett. B **658**, 101 (2008).
9. "CNO and pep neutrino spectroscopy in Borexino: Measurement of the deep-underground production of cosmogenic  $^{11}\text{C}$  in an organic liquid scintillator", Borexino Collaboration, H. Back et al., Phys. Rev. C **74**, 045805 (2006);
10. "Cosmogenic  $^{11}\text{C}$  production and sensitivity of organic scintillator detectors to pep and CNO neutrinos", C. Galbiati, A. Pocar, D. Franco, A. Ianni, L. Cadonati, and S. Schönert., Phys. Rev. C **71**, 055805 (2005).
11. "The nylon scintillator containment vessel for the Borexino solar neutrino experiment", J. Benziger et al., Nucl. Instr. Meth. A **582**, 509 (2007).
12. "Discovery of underground argon with low level of radioactive  $^{39}\text{Ar}$  and possible applications to WIMP dark matter detectors", D. Acosta-Kane et al., Nucl. Instr. Meth. A **587**, 46 (2008).

## **Conferences and schools**

- Invited Speaker at the Annual APS-DNP Conference, Oakland, CA, October 23-25, 2008
- Invited Speaker at the XXXVI SLAC Summer Institute 2008, Menlo Park, CA, August 4-15, 2008.
- Lecturer and founding member of the Gran Sasso - Princeton Physics Summer School, 2004-05.

## **Collaborations and other affiliations**

- **Collaboration Member:** EXO, Borexino, GLAST (1997-98), ATLAS (1995-96)
- **Graduate Advisors and Postdoctoral Sponsors:** Graduate advisor, F. Calaprice (Princeton); Principal Postdoctoral sponsors, F. Calaprice (Princeton), G. Gratta (Stanford)