Mary F. Kidd

CONTACT INFORMATION

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My primary research interests in experimental nuclear physics lie in the detection of very rare nuclear processes, such as two-neutrino double-beta decay to excited final states, neutrinoless double-beta decay and double-electron capture. I am interested in low-background counting in underground facilities, neutrino physics, the search for dark matter and neutron scattering on isotopes related to neutrino physics. I also pursue nuclear physics applications to climate change science, such as the detection of ^{14}C in microorganisms.

EDUCATION

Duke University, Durham, NC **August 2004 – May 2010**
Doctor of Philosophy in Experimental Nuclear Physics
Thesis title: Double-Beta Decay of ^{150}Nd to Excited Final States
Advisor: Professor Werner Tornow, Physics/Triangle Universities Nuclear Laboratory

M.A. in Physics, (GPA = 3.497/4.0; 4 = A) **May 2007**

EMPLOYMENT

Tennessee Technological University, Cookeville, TN **August 2012 – present**
Assistant Professor, Physics Department

Los Alamos National Laboratory, Los Alamos, NM **July 2010 – July 2012**
Postdoctoral Associate
Supervisor: Dr. Steven R. Elliott

SELECTED PUBLICATIONS

M.F. Kidd, J.H. Esterline, S.W. Finch, W. Tornow, "Two-neutrino double-beta decay of ^{150}Nd to excited final states," Phys. Rev. C **90**, 055501(2014).

M.F. Kidd, J.H. Esterline, W. Tornow, A.S. Barabash, V.I. Umatov, "New results for double-beta decay of ^{100}Mo to excited final states of ^{100}Ru using the TUNL-ITEP apparatus", Nuclear Physics, A821, 251, (2009).

M.F. Kidd, J. H. Esterline, W. Tornow, "Double-electron capture on ^{112}Sn to the excited 1871 keV state in ^{112}Cd: A possible alternative to double-beta decay", Phys. Rev. C, 78, 035504 (2008).

Other Recent Publications

The MAJORANA Collaboration,The MAJORANA DEMONSTRATOR Neutrinoless Double-Beta Decay Experiment, Advances in High Energy Physics, **2014** 365432 (2014).

The MAJORANA Collaboration, "The MAJORANA Parts Tracking Database", Nucl. Inst. Meth. A, **779**, 52 (2015).

S.R. Eliott, B.H. LaRoque, V.M. Gehman, **M.F. Kidd**, M. Chen, "An improved limit on Pauli-Exclusion-Principle forbidden atomic transitions," Foundations of Physics, **42**, 8, 1015 (2012).