

Luke F. Roberts
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Education

The University of California at Santa Cruz, Santa Cruz, CA 2007-
Currently Enrolled in Graduate Astrophysics Program; Pursuing PhD

The Colorado College, Colorado Springs, CO May 2006
Bachelor of Arts, Magna Cum Laude, Major in Physics

Awards and Honors

Whitford Prize, Astronomy & Astrophysics Department (UCSC) 2009
Stewardship Science Graduate Fellow (National Nuclear Security Administration) 2008 – Present
Regents Fellow (UCSC, 3 quarters) 2007 – 2008
David and Karen Smith Cowperthwaite Award for Excellence in Physics (Colorado College) 2006
Phi Beta Kappa Honor Society 2006 – Present
Crown-Goodman Scholar (Colorado College) 2005 – 2006

Work and Research Experience

SSGF Fellow Practicum – Los Alamos National Laboratory Summer 2009
Research Subcontractor – Nuclear Astrophysics Group at ORNL, Oak Ridge, TN May 2005 – March 2006
Technician and R&D Consultant – Coble Geophysical Services, Homer, AK 2003 – 2006
Commercial Fishing Deckhand – F/V Martha Lee, Area M, AK Summer 1999-2002

Refereed Publications

L. F. Roberts, D. Kasen, and W. H. Lee, and E. Ramirez-Ruiz, Electromagnetic Transients Powered by Nuclear Decay in the Tidal Tails of Coalescing Compact Neutron Star Binaries, Accepted ApJL (2011).

L. F. Roberts, S. E. Woosley, and R. D. Hoffman, Integrated Nucleosynthesis in Neutrino-driven Winds, ApJ 722, 1 (2010).

A. Arcones, G. Martínez-Pinedo, **L. F. Roberts**, and S. E. Woosley, Electron fraction constraints based on nuclear statistical equilibrium with beta equilibrium, A&A 522, 25A (2010).

B.H. Moazen, et al., Measurement of the 183 keV Resonance in $^{17}\text{O}(p,\alpha)^{14}\text{N}$ Using a Novel Technique. Phys. Rev. C 75, 065801 (2007).

D.W. Bardayan, et al., ^{30}S studied with the $^{32}\text{S}(p,t)^{30}\text{S}$ reaction and the $^{29}\text{P}(p,\gamma)^{30}\text{S}$ reaction rate. Phys. Rev. C 76, 045803 (2007).

Conference Proceedings

L. Roberts, A. Heger, R. Hoffman, and S. Woosley, Nucleosynthesis in the Neutrino Driven Winds of Proto-Neutron Stars. Proceedings of Science (NIC X) 146, 2008.

L. F. Roberts, W. R. Hix, M. Smith, and J. L. Fisker, Monte Carlo Simulations of Type I X-ray Burst Nucleosynthesis. Proceedings of Science (NIC IX) 202, 2006.

Invited Talks

“*r*-Process Powered Transients from Compact Object Mergers”, University of Minnesota Astronomy Journal Club, March 24th, 2011.

“Signatures of the Late Time Core Collapse Environment”, University of Minnesota Nuclear Physics Seminar, March 23rd, 2011.

“Temporal Structure of the Supernova Neutrino Signal: Neutron Star Tomography?” TC Meeting, INT University of Washington, August 26th, 2010.

“Nucleosynthesis in the Neutrino Driven Wind”, University of California Santa Cruz FLASH Seminar, May 29th, 2008.

Contributed Talks

“Nucleosynthesis in the Neutrino Driven Wind”, at “Neutron Matter in Astrophysics: From Neutron Stars to the *r*-Process” GSI, Darmstadt, July 16th, 2010.