Curriculum Vitae

Anthony L. Piro

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Education

2006	Doctor of Philosophy in Physics, University of California, Santa Barbara (UCSB)
2005	Master of Arts in Physics, UCSB
2001	Bachelor of Science in Creative Studies with an emphasis in Physics, UCSB

Work Experience and Positions Held

1/2006–present	Theoretical Astrophysics Center (TAC) Fellow, Astronomy Department, University of California, Berkeley
10/2006–12/2006	Postdoctoral Research Fellow, Kavli Institute for Theoretical Physics (KITP), UCSB
6/2001–9/2006	Graduate Research Assistant for Dr. Lars Bildsten, Department of Physics, UCSB
9/2001–3/2004	Graduate Teaching Assistant, Department of Physics, UCSB
1/2000–6/2001	Tutor of math and physics, Campus Learning Assistance Services (CLAS), UCSB
1/1999–9/2000	Research Assistant for Dr. Harry Nelson, Cryogenic Dark Matter Search (CDMS), Department of Physics, UCSB

Honors and Awards

2006	Postdoctoral Prize Fellowship in Theoretical Astrophysics, Cosmology, and Planetary Science (TAC Fellow), University of California, Berkeley
2005	Best Student Talk, 5th Annual Theoretical Astrophysics in Southern California Meeting, California Institute of Technology
2004	Attended the 54th Annual Lindau Meeting of Nobel Laureates and Students in Lindau, Germany, nominated by UCSB and sponsored by the National Science Foundation
2001	Arnold T. Nordsieck Memorial Prize for demonstrating notable promise in physics research, Department of Physics, UCSB
2001	Highest Academic Honors for ranking within the top 2.5 percent of graduating seniors, College of Letters and Science, UCSB
1997	Regents Scholar, UCSB

Refereed Publications

"Transient X-Ray Binaries in Elliptical Galaxies," A. L. Piro & L. Bildsten, 2002, *Ap. J. L.*, **571**, L103.

"Unstable Nonradial Oscillations on Helium Burning Neutron Stars," A. L. Piro & L. Bildsten, 2004, *Ap. J.*, **603**, 252.

"Spreading of Accreted Material on White Dwarfs," A. L. Piro & L. Bildsten, 2004, *Ap. J.*, **610**, 977.

"A Spreading Layer Origin for Dwarf Nova Oscillations," A. L. Piro & L. Bildsten, 2004, *Ap. J. L.*, **616**, L155.

"Neutron Star Crustal Interface Waves," A. L. Piro & L. Bildsten, 2005, *Ap. J.*, **619**, 1054.

"White Dwarf Heating and Subsequent Cooling in Dwarf Nova Outbursts," A. L. Piro, P. Arras, & L. Bildsten, 2005, *Ap. J.*, **628**, 401.

"Surface Modes on Bursting Neutron Stars and X-ray Burst Oscillations," A. L. Piro & L. Bildsten, 2005, *Ap. J.*, **629**, 438.

"The Discovery of X-ray Binaries in the Sculptor Dwarf Spheroidal Galaxy," T. J. Maccarone, A. Kundu, S. E. Zepf, A. L. Piro, & L. Bildsten, 2005, *M. N. R. A. S.*, **364**, L61.

"Shear Waves and Giant Flare Oscillations from Soft Gamma-Ray Repeaters" A. L. Piro, 2005, *Ap. J. L.*, **634**, L153.

"The Energy Dependence of Neutron Star Surface Modes and X-ray Burst Oscillations," A. L. Piro & L. Bildsten, 2006, *Ap. J.*, **638**, 968.

"Fragmentation of Collapsar Disks and the Production of Gravitational Waves," A. L. Piro & E. Pfahl, 2007, *Ap. J.*, **658**, 1173

"Turbulent Mixing in the Surface Layers of Accreting Neutron Stars," A. L. Piro & L. Bildsten, 2007, *Ap. J.*, **663**, 1252.

"The Internal Shear of Type Ia Supernova Progenitors During Accretion and Simmerings," A. L. Piro, 2007, submitted for publication in *Ap. J.*.

"Neutronization During Type Ia Supernova Simmering," A. L. Piro & L. Bildsten, 2007, accepted for publication in *Ap. J.*. (arXiv:0710.1600)

"Convection during the Late Stages of Simmering in Type Ia Supernovae," A. L. Piro & P. Chang, 2007, accepted for publication in *Ap. J.*.

Conference Proceedings

"The Spreading Layer and Dwarf Nova Oscillations," A. L. Piro & L. Bildsten, 2005, in "The Astrophysics of Cataclysmic Variables and Related Objects," eds. J. M. Hameury and J. P. Lasota (ASP Conf. Ser.) (astro-ph/0409648)

"X-ray binaries in Sculptor," T. J. Maccarone, A. Kundu, S. E. Zepf, A. L. Piro, & L. Bildsten, 2005, to appear in the proceedings of IAU Symposioum 230, eds. E. J. A. Meurs and G. Fabbiano (astro-ph/0511101)

"The Turbulent Story of X-ray Bursts: Effects of Shear Mixing on Accreting Neutron Stars," A. L. Piro & L. Bildsten, 2007, to appear in the proceedings of "Forty Years of Pulsars: Millisecond Pulsars, Magnetars and More" held in Montreal, Canada, August 12-17, 2007, eds. C. Bassa, Z. Wang, A. Cumming, V. Kaspi (arXiv:0710.3163)

"Accreting, Mixing, and X-ray Bursting," A. L. Piro & L. Bildsten, 2007, to appear in the proceedings of "A Population Explosion: The Nature and Evolution of X-ray Binaries in Diverse Environments" held in St. Petersburg Beach, Florida, October 28-November 2, 2007, eds. R. M. Bandyopadhyay, S. Wachter, D. Gelino, & C. R. Gelino

Invited Talks

"Pre-explosive Simmering During Type Ia Supernovae" Center for Astrophysical Sciences (CAS) Research Seminar, Johns Hopkins University (October 2007)

"Recent Progress Relating the Theory and Observations of Neutron Star Oscillations," High Energy Astrophysics Division (HEAD) Lunch Talk, Harvard-Smithsonian Center for Astrophysics (December 2005)

"Nonradial Modes, Neutron Star Crusts, and Burst Oscillations," Wunch Talk, Princeton University (December 2005)

"Oscillations in X-ray Bursts and SGR Flares as Probes of Neutron Stars," Astro/CSSA/-KIPAC/SLAC (ACKS) Seminar, Stanford Linear Accelerator Center (November 2005)

"Neutron Star Seismology: X-ray Burst and SGR Flare Oscillations," Theoretical Astrophysics Center Seminar, University of California, Berkeley (November 2005)

"Burst Oscillations, Nonradial Modes, and Neutron Star Crusts," JINA Nuclear Astrophysics Lunch Research Discussion, Michigan State University (January 2005)

Sample Contributed Talks

"Angular Momentum Transport in SN Ia Progenitors," Accretion and Explosion: the Astrophysics of Degenerate Stars, Kavli Institute of Theoretical Physics, UCSB (April 2007)

"Burst Oscillations and Nonradial Oscillations of Neutron Stars," Neutron Stars at the Crossroads of Fundamental Physics, UBC, Vancouver, BC (August 2005)

"Mixing and Spreading of Matter on Accreting White Dwarfs," JINA Workshop on Classical Novae and Type Ia Supernovae, Kavli Institute of Theoretical Physics, UCSB (May 2005)

"Nonradial Oscillations on Bursting Neutron Stars," The 8th HEAD Meeting, New Orleans (September 2004)

"Boundary Layers," The Astrophysics of CVs and Related Objects, Strasbourg, France (July 2004)

"Type I X-ray Bursts and Burst Oscillations," JINA Workshop on Nuclear Physics and Astrophysics of Accreting Neutron Stars, Kavli Institute of Theoretical Physics, UCSB (April 2004)

"Pulsational Stability of Accreting Neutron Star Envelopes," Physics and Astrophysics of Neutron Stars Conference sponsored by Los Alamos National Laboratory (July 2003)

"Pulsational Stability of Steady State Models," Neutron Stars on Fire Conference at the Institute for Advanced Study Princeton (May 2003)