

Refereed Publications:

- 103.** *Spallation Backgrounds in Super-Kamiokande Are Made in Muon-Induced Showers*
Shirley Weishi Li and John F. Beacom
accepted for publication in Phys. Rev. D [arXiv:1503.04823 [hep-ph]]
- 102.** *New Power to Measure Supernova ν_e with Large Liquid Scintillator Detectors*
Ranjan Laha, John F. Beacom, and Sanjib Kumar Agarwalla
to be submitted to Phys. Rev. D [arXiv:1412.8425 [hep-ph]]
- 101.** *Discovery and Observations of the Unusually Luminous Type-Defying II-P/II-L Supernova ASASSN-13co*
Thomas W.-S. Holoiën, *et al.*
submitted to Mon. Not. Roy. Astron. Soc. [arXiv:1411.3322 [astro-ph.HE]]
- 100.** *ASASSN-14ae: A Tidal Disruption Event at 200 Mpc*
Thomas W.-S. Holoiën, *et al.*
Mon. Not. Roy. Astron. Soc. **445**, 3263 (2014) [arXiv:1405.1417 [astro-ph.GA]]
- 99.** *Cosmic Neutrino Cascades from Secret Neutrino Interactions*
Kenny C. Y. Ng and John F. Beacom
Phys. Rev. D **90**, 065035 (2014) [arXiv:1404.2288 [astro-ph.HE]]
- 98.** *First Calculation of Cosmic-Ray Muon Spallation Backgrounds for MeV Astrophysical Neutrino Signals in Super-Kamiokande*
Shirley Weishi Li and John F. Beacom
Phys. Rev. C **89**, 045801 (2014) [arXiv:1402.4687 [hep-ph]]
- 97.** *Discovery and Observations of ASASSN-13db, an EXor Accretion Event on a Low-Mass T Tauri Star*
Thomas W.-S. Holoiën, *et al.*
Astrophys. J. **785**, L35 (2014) [arXiv:1401.3335 [astro-ph.SR]]
- 96.** *Combined Flux and Anisotropy Searches Improve Sensitivity to Gamma Rays from Dark Matter*
Sheldon S. Campbell and John F. Beacom
submitted to Phys. Rev. Lett. [arXiv:1312.3945 [astro-ph.HE]]
- 95.** *Gadolinium in Water Cherenkov Detectors Improves Detection of Supernova ν_e*
Ranjan Laha and John F. Beacom
Phys. Rev. D **89**, 063007 (2014) [arXiv:1311.6407 [astro-ph.HE]]
- 94.** *Characterizing a Dramatic $\Delta V \sim 9$ Magnitude Flare on an Ultracool Dwarf Found in the ASAS-SN Survey*
Sarah J. Schmidt, *et al.*
Astrophys. J. Lett. **781**, L24 (2014) [arXiv:1310.4515 [astro-ph.SR]]
- 93.** *The Man Behind the Curtain: X-rays Drive the UV through NIR Variability in the 2013 AGN Outburst in NGC 2617*
B. J. Shappee, *et al.*
Astrophys. J. **788**, 48 (2014) [arXiv:1310.2241 [astro-ph.HE]]

Refereed Publications: (continued)**92.** *Resolving Small-Scale Dark Matter Structures Using Multi-Source Indirect Detection*

Kenny C. Y. Ng, Ranjan Laha, Sheldon Campbell, Shunsaku Horiuchi, Basudeb Dasgupta, Kohta Murase, and John F. Beacom

Phys. Rev. D **89**, 083001 (2014) [arXiv:1310.1915 [astro-ph.CO]]

91. *Demystifying the PeV Cascades in IceCube: Less (Energy) is More (Events)*

Ranjan Laha, John F. Beacom, Basudeb Dasgupta, Shunsaku Horiuchi, and Kohta Murase

Phys. Rev. D **88**, 043009 (2013) [arXiv:1306.2309 [astro-ph.HE]]

90. *Observing the Next Galactic Supernova*

Scott M. Adams, Christopher S. Kochanek, John F. Beacom, Mark R. Vagins, and K. Z. Stanek

Astrophys. J. **778**, 164 (2013) [arXiv:1306.0559 [astro-ph.HE]]

89. *Constraints on New Neutrino Interactions via Light Abelian Vector Bosons*

Ranjan Laha, Basudeb Dasgupta, and John F. Beacom

Phys. Rev. D **89**, 093025 (2014) [arXiv:1304.3460 [hep-ph]]

88. *Effects of Stellar Rotation on Star Formation Rates and Comparison to Core-Collapse Supernova Rates*

Shunsaku Horiuchi, John F. Beacom, Matt S. Bothwell, and Todd A. Thompson

Astrophys. J. **769**, 113 (2013) [arXiv:1302.0287 [astro-ph.SR]]

87. *Galaxy Clusters as Reservoirs of Heavy Dark Matter and High-Energy Cosmic Rays: Constraints from Neutrino Observations*

Kohta Murase and John F. Beacom

J. Cosmol. Astropart. Phys. **1302**, 028 (2013) [arXiv:1209.0225 [astro-ph.HE]]

86. *New Sensitivity to Solar WIMP Annihilation using Low-Energy Neutrinos*

Carsten Rott, Jennifer Siegal-Gaskins, and John F. Beacom

Phys. Rev. D **88**, 055005 (2013) [arXiv:1208.0827 [astro-ph.HE]]

85. *Constraining Very Heavy Dark Matter Using Diffuse Backgrounds of Neutrinos and Cascaded Gamma Rays*

Kohta Murase and John F. Beacom

J. Cosmol. Astropart. Phys. **1210**, 043 (2012) [arXiv:1206.2595 [hep-ph]]

84. *The Star-Forming Galaxy Contribution to the Cosmic MeV and GeV Gamma-Ray Background*

Brian C. Lacki, Shunsaku Horiuchi, and John F. Beacom

Astrophys. J. **786**, 40 (2014) [arXiv:1206.0772 [astro-ph.HE]]

83. *Gamma-Ray and Neutrino Backgrounds as Probes of the High-Energy Universe: Hints of Cascades, General Constraints, and Implications for TeV Searches*

Kohta Murase, John F. Beacom, and Hajime Takami

J. Cosmol. Astropart. Phys. **1208**, 030 (2012) [arXiv:1205.5755 [astro-ph.HE]]

82. *Precise Relic WIMP Abundance and its Impact on Searches for Dark Matter Annihilation*

Gary Steigman, Basudeb Dasgupta, and John F. Beacom

Phys. Rev. D **86**, 023506 (2012) [arXiv:1204.3622 [hep-ph]]

Refereed Publications: (continued)

- 81.** *The Unusual Temporal and Spectral Evolution of the Type II_n Supernova 2011ht*
P. W. A. Roming *et al.*
Astrophys. J. **751**, 92 (2012) [arXiv:1202.4840 [astro-ph.CO]]
- 80.** *Dust to Dust: 3 years in the Evolution of the Unusual SN 2008S*
D. M. Szczygiel, J. L. Prieto, C. S. Kochanek, K. Z. Stanek, T. A. Thompson, J. F. Beacom, P. M. Garnavich, and C. E. Woodward
Astrophys. J. **750**, 77 (2012) [arXiv:1202.0279 [astro-ph.SR]]
- 79.** *SN 2008jb: A ‘Lost’ Core-Collapse Supernova in a Star-Forming Dwarf Galaxy at ~ 10 Mpc*
Jose L. Prieto, J. C. Lee, A. J. Drake, R. McNaught, G. Garradd, J. F. Beacom, E. Beshore, M. Catelan, S. G. Djorgovski, G. Pojmanski, K. Z. Stanek, and D. M. Szczygiel
Astrophys. J. **745**, 70 (2012) [arXiv:1107.5043 [astro-ph.SR]]
- 78.** *The Next-Generation Liquid-Scintillator Neutrino Observatory LENA*
Michael Wurm *et al.* [LENA Collaboration]
Astropart. Phys. **35**, 685 (2012) [arXiv:1104.5620 [astro-ph.IM]]
- 77.** *Reconstruction of Supernova Mu/Tau-Neutrino Spectra at Scintillator Detectors*
Basudeb Dasgupta and John F. Beacom
Phys. Rev. D **83**, 113006 (2011) [arXiv:1103.2768 [hep-ph]]
- 76.** *The Cosmic Core-Collapse Supernova Rate Does Not Match the Massive-Star Formation Rate*
Shunsaku Horiuchi, John F. Beacom, Christopher S. Kochanek, Jose L. Prieto, K. Z. Stanek, and Todd A. Thompson
Astrophys. J. **738**, 154 (2011) [arXiv:1102.1977 [astro-ph.CO]]
- 75.** *New Class of High-Energy Transients from Crashes of Supernova Ejecta with Massive Circumstellar Material Shells*
Kohta Murase, Todd A. Thompson, Brian C. Lacki, and John. F. Beacom
Phys. Rev. D **84**, 043003 (2011) [arXiv:1012.2834 [astro-ph.HE]]
- 74.** *Role of Line-of-Sight Cosmic Ray Interactions in Forming the Spectra of Distant Blazars in TeV Gamma Rays and High-Energy Neutrinos*
Warren Essey, Oleg Kalashev, Alexander Kusenko, and John F. Beacom
Astrophys. J. **731**, 51 (2011) [arXiv:1011.6340 [astro-ph.HE]]
- 73.** *Pre-discovery and Follow-up Observations of the Nearby SN 2009nr: Implications for Prompt Type Ia SNe*
Rubab Khan, J. L. Prieto, G. Pojmanski, K. Z. Stanek, J. F. Beacom, D. M. Szczygiel, B. Pilecki, K. Mogren, J. D. Eastman, P. Martini, and R. Stoll
Astrophys. J. **726**, 106 (2011) [arXiv:1008.4126 [astro-ph.HE]]
- 72.** *Revealing Type Ia Supernova Physics with Cosmic Rates and Nuclear Gamma Rays*
Shunsaku Horiuchi and John F. Beacom
Astrophys. J. **723**, 329 (2010) [arXiv:1006.5751 [astro-ph.CO]]

Refereed Publications: (continued)**71.** *The Diffuse Supernova Neutrino Background*

John F. Beacom

Ann. Rev. Nucl. Part. Sci. **60**, 439 (2010) [arXiv:1004.3311 [astro-ph.HE]]**70.** *Neutrino Background Flux from Sources of Ultrahigh-Energy Cosmic-Ray Nuclei*

Kohta Murase and John F. Beacom

Phys. Rev. D **81**, 123001 (2010) [arXiv:1003.4959 [astro-ph.HE]]**69.** *Primordial Black Holes as Dark Matter: Almost All or Almost Nothing*

Brian C. Lacki and John F. Beacom

Astrophys. J. **720**, L67 (2010) [arXiv:1003.3466 [astro-ph.CO]]**68.** *Very-High-Energy Gamma-Ray Signal from Nuclear Photodisintegration as a Probe of Extragalactic Sources of Ultrahigh-Energy Nuclei*

Kohta Murase and John F. Beacom

Phys. Rev. D **82**, 043008 (2010) [arXiv:1002.3980 [astro-ph.HE]]**67.** *Census of Self-Obscured Massive Stars in Nearby Galaxies with Spitzer: Implications for Understanding the Progenitors of SN 2008S-Like Transients*

Rubab Khan, K. Z. Stanek, J. L. Prieto, C. S. Kochanek, T. A. Thompson, and J. F. Beacom

Astrophys. J. **715**, 1094 (2010) [arXiv:1001.3681 [astro-ph.SR]]**66.** *Synoptic Sky Surveys and the Diffuse Supernova Neutrino Background: Removing Astrophysical Uncertainties and Revealing Invisible Supernovae*

Amy Lien, Brian D. Fields, and John F. Beacom

Phys. Rev. D **81**, 083001 (2010) [arXiv:1001.3678 [astro-ph.CO]]**65.** *Secondary Photons and Neutrinos from Cosmic Rays Produced by Distant Blazars*

Warren Essey, Oleg E. Kalashev, Alexander Kusenko, and John F. Beacom

Phys. Rev. Lett. **104**, 141102 (2010) [arXiv:0912.3976 [astro-ph.HE]]**64.** *Determining the Escape Fraction of Ionizing Photons During Reionization with the GRB-Derived Star Formation Rate*

J.S.B Wyithe, A. M. Hopkins, M. D. Kistler, H. Yüksel, and J. F. Beacom

Mon. Not. Roy. Astron. Soc. **401**, 2561 (2010) [arXiv:0908.0193 [astro-ph.CO]]**63.** *The Star Formation Rate in the Reionization Era as Indicated by Gamma-Ray Bursts*

Matthew D. Kistler, Hasan Yüksel, John F. Beacom, Andrew M. Hopkins, and J. Stuart B. Wyithe

Astrophys. J. **705**, L104 (2009) [arXiv:0906.0590 [astro-ph.CO]]**62.** *Diffuse Supernova Neutrino Background is Detectable in Super-Kamiokande*

Shunsaku Horiuchi, John F. Beacom, and Eli Dwek

Phys. Rev. D **79**, 083013 (2009) [arXiv:0812.3157 [astro-ph]]**61.** *Core-Collapse Astrophysics with a Five-Megaton Neutrino Detector*

Matthew D. Kistler, Hasan Yüksel, Shin'ichiro Ando, John F. Beacom, and Yoichiro Suzuki

Phys. Rev. D **83**, 123008 (2011) [arXiv:0810.1959 [astro-ph]]

Refereed Publications: (continued)

- 60.** *A New Class of Luminous Transients and a First Census of Their Massive Stellar Progenitors*
Todd A. Thompson, Jose L. Prieto, K. Z. Stanek, Matthew D. Kistler, John F. Beacom, and Christopher S. Kochanek
Astrophys. J. **705**, 1364 (2009) [arXiv:0809.0510 [astro-ph]]
- 59.** *Revealing the High-Redshift Star Formation Rate with Gamma-Ray Bursts*
Hasan Yüksel, Matthew D. Kistler, John F. Beacom, and Andrew M. Hopkins
Astrophys. J. **683**, L5 (2008) [arXiv:0804.4008 [astro-ph]]
- 58.** *Conservative Constraints on Dark Matter Annihilation into Gamma Rays*
Gregory D. Mack, Thomas D. Jacques, John F. Beacom, Nicole F. Bell, and Hasan Yüksel
Phys. Rev. D **78**, 063542 (2008) [arXiv:0803.0157 [astro-ph]]
- 57.** *Discovery of the Dust-Enshrouded Progenitor of the Type II_n SN 2008S with Spitzer*
Jose L. Prieto, Matthew D. Kistler, Todd A. Thompson, Hasan Yüksel, Christopher S. Kochanek, Krzysztof Z. Stanek, John F. Beacom, Paul Martini, Anna Pasquali, and Jill Bechtold
Astrophys. J. Lett. **681**, L9 (2008) [arXiv:0803.0324 [astro-ph]]
- 56.** *A Survey About Nothing: Monitoring a Million Supergiants for Failed Supernovae*
Christopher S. Kochanek, John F. Beacom, Matthew D. Kistler, Jose L. Prieto, Krzysztof Z. Stanek, Todd A. Thompson, and Hasan Yüksel
Astrophys. J. **684**, 1336 (2008) [arXiv:0802.0456 [astro-ph]]
- 55.** *Probing New Physics with Long-Lived Charged Particles Produced by Atmospheric and Astrophysical Neutrinos*
Shin'ichiro Ando, John F. Beacom, Stefano Profumo, and David Rainwater
J. Cosmol. Astropart. Phys. **0804**, 029 (2008) [arXiv:0711.2908 [hep-ph]]
- 54.** *An Unexpectedly Swift Rise in the Gamma-Ray Burst Rate*
Matthew D. Kistler, Hasan Yüksel, John F. Beacom, and Krzysztof Z. Stanek
Astrophys. J. Lett. **673**, L119 (2008) [arXiv:0709.0381 [astro-ph]]
- 53.** *Neutrino Constraints on the Dark Matter Total Annihilation Cross Section*
Hasan Yüksel, Shunsaku Horiuchi, John F. Beacom, and Shin'ichiro Ando
Phys. Rev. D **76**, 123506 (2007) [arXiv:0707.0196 [astro-ph]]
- 52.** *Characterizing Supernova Progenitors via the Metallicities of their Host Galaxies, from Poor Dwarfs to Rich Spirals*
Jose L. Prieto, Krzysztof Z. Stanek, and John F. Beacom
Astrophys. J. **673**, 999 (2008) [arXiv:0707.0690 [astro-ph]]
- 51.** *Strong Upper Limits on Sterile Neutrino Warm Dark Matter*
Hasan Yüksel, John F. Beacom, and Casey R. Watson
Phys. Rev. Lett. **101**, 121301 (2008) [arXiv:0706.4084 [astro-ph]]
- 50.** *Towards Closing the Window on Strongly Interacting Dark Matter: Far-Reaching Constraints from Earth's Heat Flow*
Greg D. Mack, John F. Beacom, and Gianfranco Bertone
Phys. Rev. D **76**, 043523 (2007) [arXiv:0705.4298 [astro-ph]]

Refereed Publications: (continued)**49. *Neutrino Spectrum from SN 1987A and from Cosmic Supernovae***

Hasan Yüksel and John F. Beacom

Phys. Rev. D **76**, 083007 (2007) [astro-ph/0702613]**48. *Dissecting the Cygnus Region with TeV Gamma Rays and Neutrinos***

John F. Beacom and Matthew D. Kistler

Phys. Rev. D **75**, 083001 (2007) [astro-ph/0701751]**47. *TeV Gamma-Rays from Photo-Disintegration / De-Excitation of Cosmic-Ray Nuclei***

Luis A. Anchordoqui, John F. Beacom, Haim Goldberg, Sergio Palomares-Ruiz, and Thomas J. Weiler

Phys. Rev. Lett. **98**, 121101 (2007) [astro-ph/0611580]**46. *TeV Gamma-Rays and Neutrinos from Photo-Disintegration of Nuclei in Cygnus OB2***

Luis A. Anchordoqui, John F. Beacom, Haim Goldberg, Sergio Palomares-Ruiz, and Thomas J. Weiler

Phys. Rev. D **75**, 063001 (2007) [astro-ph/0611581]**45. *Upper Bound on the Dark Matter Total Annihilation Cross Section***

John F. Beacom, Nicole F. Bell, and Gregory D. Mack

Phys. Rev. Lett. **99**, 231301 (2007) [astro-ph/0608090]**44. *Guaranteed and Prospective Galactic TeV Neutrino Sources***

Matthew D. Kistler and John F. Beacom

Phys. Rev. D **74**, 063007 (2006) [astro-ph/0607082]**43. *Direct X-ray Constraints on Sterile Neutrino Warm Dark Matter***

Casey R. Watson, John F. Beacom, Hasan Yüksel, and Terry P. Walker

Phys. Rev. D **74**, 033009 (2006) [astro-ph/0605424]**42. *Protecting Life in the Milky Way: Metals Keep the GRBs Away***K. Z. Stanek, O. Y. Gnedin, J. F. Beacom, *et al.*Acta Astron. **56**, 333 (2006) [astro-ph/0604113]**41. *Diffuse Gamma Rays from the Galactic Plane: Probing the GeV Excess and Identifying the TeV Excess***

Tijana Prodanovic, Brian D. Fields, and John F. Beacom

Astropart. Phys. **27**, 10 (2007) [astro-ph/0603618]**40. *The Cosmic Stellar Birth and Death Rates***

John F. Beacom

New Astron. Rev. **50**, 561 (2006) [astro-ph/0602101]**39. *On the Normalization of the Cosmic Star Formation History***

Andrew M. Hopkins and John F. Beacom

Astrophys. J. **651**, 142 (2006) [astro-ph/0601463]**38. *Stringent Constraint on Galactic Positron Production***

John F. Beacom and Hasan Yüksel

Phys. Rev. Lett. **97**, 071102 (2006) [astro-ph/0512411]

Refereed Publications: (continued)

37. *Direct Measurement of Supernova Neutrino Emission Parameters with a Gadolinium-Enhanced Super-Kamiokande Detector*

Hasan Yüksel, Shin'ichiro Ando, and John F. Beacom

Phys. Rev. C **74**, 015803 (2006) [astro-ph/0509297]

36. *New Test of Supernova Electron Neutrino Emission Using Sudbury Neutrino Observatory Sensitivity to the Diffuse Supernova Neutrino Background*

John F. Beacom and Louis E. Strigari

Phys. Rev. C **73**, 035807 (2006) [hep-ph/0508202]

35. *Measuring the Cosmic Ray Muon-Induced Fast Neutron Spectrum by (n,p) Isotope Production Reactions in Underground Detectors*

Cristiano Galbiati and John F. Beacom

Phys. Rev. C **72**, 025807 (2005) [hep-ph/0504227]

34. *Detection of Neutrinos from Supernovae in Nearby Galaxies*

Shin'ichiro Ando, John F. Beacom, and Hasan Yüksel

Phys. Rev. Lett. **95**, 171101 (2005) [astro-ph/0503321]

33. *Revealing the Supernova–Gamma-Ray Burst Connection with TeV Neutrinos*

Shin'ichiro Ando and John F. Beacom

Phys. Rev. Lett. **95**, 061103 (2005) [astro-ph/0502521]

32. *The Concordance Cosmic Star Formation Rate: Implications from and for the Supernova Neutrino and Gamma Ray Backgrounds*

Louis E. Strigari, John F. Beacom, Terry P. Walker, and Pengjie Zhang

J. Cosmol. Astropart. Phys. **0504**, 017 (2005) [astro-ph/0502150]

31. *Gamma-Ray Constraint on Galactic Positron Production by MeV Dark Matter*

John F. Beacom, Nicole F. Bell, and Gianfranco Bertone

Phys. Rev. Lett. **94**, 171301 (2005) [astro-ph/0409403]

30. *Shower Power: Isolating the Prompt Atmospheric Neutrino Flux Using Electron Neutrinos*

John F. Beacom and Julián Candia

J. Cosmol. Astropart. Phys. **0411**, 009 (2004) [hep-ph/0409046]

29. *Neutrinoless Universe*

John F. Beacom, Nicole F. Bell, and Scott Dodelson

Phys. Rev. Lett. **93**, 121302 (2004) [astro-ph/0404585]

28. *Angular Correlations of the MeV Cosmic Gamma Ray Background*

Pengjie Zhang and John F. Beacom

Astrophys. J. **614**, 37 (2004) [astro-ph/0401351]

27. *Antineutrino Spectroscopy with Large Water Čerenkov Detectors*

John F. Beacom and Mark R. Vagins

Phys. Rev. Lett. **93**, 171101 (2004) [hep-ph/0309300]

26. *Sensitivity to θ_{13} and δ in the Decaying Astrophysical Neutrino Scenario*

John F. Beacom, Nicole F. Bell, Dan Hooper, Sandip Pakvasa, and Thomas J. Weiler

Phys. Rev. D **69**, 017303 (2004) [hep-ph/0309267]

Refereed Publications: (continued)**25.** *Pseudo-Dirac Neutrinos, A Challenge for Neutrino Telescopes*

John F. Beacom, Nicole F. Bell, Dan Hooper, John G. Learned, Sandip Pakvasa, and Thomas J. Weiler

Phys. Rev. Lett. **92**, 011101 (2004), [hep-ph/0307151]

24. *Measuring Flavor Ratios of High-Energy Astrophysical Neutrinos*

John F. Beacom, Nicole F. Bell, Dan Hooper, Sandip Pakvasa, and Thomas J. Weiler

Phys. Rev. D **68**, 093005 (2003) [hep-ph/0307025]

23. *Neutral-Current Atmospheric Neutrino Flux Measurement Using Neutrino-Proton Elastic Scattering in Super-Kamiokande*

John F. Beacom and Sergio Palomares-Ruiz

Phys. Rev. D **67**, 093001 (2003) [hep-ph/0301060]

22. *Decay of High-Energy Astrophysical Neutrinos*

John F. Beacom, Nicole F. Bell, Dan Hooper, Sandip Pakvasa, and Thomas J. Weiler

Phys. Rev. Lett. **90**, 181301 (2003) [hep-ph/0211305]

21. *Detection of Supernova Neutrinos by Neutrino-Proton Elastic Scattering*

John F. Beacom, Will M. Farr, and Petr Vogel

Phys. Rev. D **66**, 033001 (2002) [hep-ph/0205220]

20. *Potential for Supernova Neutrino Detection in MiniBooNE*

Matthew K. Sharp, John F. Beacom, and Joseph A. Formaggio

Phys. Rev. D **66**, 013012 (2002) [hep-ph/0205035]

19. *Do Solar Neutrinos Decay?*

John F. Beacom and Nicole F. Bell

Phys. Rev. D **65**, 113009 (2002) [hep-ph/0204111]

18. *CPT Violation and the Nature of Neutrinos*

G. Barenboim, J. F. Beacom, L. Borissov, and B. Kayser

Phys. Lett. B **537**, 227 (2002) [hep-ph/0203261]

17. *Stringent Constraints on Cosmological Neutrino-Antineutrino Asymmetries from Synchronized Flavor Transformation*

Kevork N. Abazajian, John F. Beacom, and Nicole F. Bell

Phys. Rev. D **66**, 013008 (2002) [astro-ph/0203442]

16. *Enhanced Signal of Astrophysical Tau Neutrinos Propagating through Earth*

John F. Beacom, Patrick Crotty, and Edward W. Kolb

Phys. Rev. D **66**, 021302(R) (2002) [astro-ph/0111482]

15. *SDSS J124602.54+011318.8: A Highly Luminous Optical Transient at $z=0.385$*

Daniel E. Vanden Berk, Brian C. Lee, Brian C. Wilhite, John F. Beacom, Donald Q. Lamb, James Annis, Kevork Abazajian, Timothy A. McKay, *et al.* (SDSS collaboration)

Astrophys. J. **576**, 673 (2002) [astro-ph/0111054]

14. *Normalization of the Neutrino-Deuteron Cross Section*

John F. Beacom and Stephen J. Parke

Phys. Rev. D **64**, 091302(R) (2001) [hep-ph/0106128]

Refereed Publications: (continued)

13. *Black Hole Formation in Core-Collapse Supernovae and Time-of-Flight Measurements of the Neutrino Masses*

J. F. Beacom, R. N. Boyd, and A. Mezzacappa
Phys. Rev. D **63**, 073011 (2001) [astro-ph/0010398]

12. *Weak Proton Capture on ${}^3\text{He}$*

L. E. Marcucci, R. Schiavilla, M. Viviani, A. Kievsky, S. Rosati, and J. F. Beacom
Phys. Rev. C **63**, 015801 (2001) [nucl-th/0006005]

11. *Technique for Direct eV-Scale Measurements of the Mu and Tau Neutrino Masses Using Supernova Neutrinos*

J. F. Beacom, R. N. Boyd, and A. Mezzacappa
Phys. Rev. Lett. **85**, 3568 (2000) [hep-ph/0006015]

10. *Neutrino Magnetic Moments, Flavor Mixing, and the SuperKamiokande Solar Data*

J. F. Beacom and P. Vogel
Phys. Rev. Lett. **83**, 5222 (1999) [hep-ph/9907383]

9. *Angular Distribution of Neutron Inverse Beta Decay, $\bar{\nu}_e + p \rightarrow e^+ + n$*

P. Vogel and J. F. Beacom
Phys. Rev. D **60**, 053003 (1999) [hep-ph/9903554]

8. *Can a Supernova be Located by its Neutrinos?*

J. F. Beacom and P. Vogel
Phys. Rev. D **60**, 033007 (1999) [astro-ph/9811350]

7. *Mass Signature of Supernova ν_μ and ν_τ Neutrinos in the Sudbury Neutrino Observatory*

J. F. Beacom and P. Vogel
Phys. Rev. D **58**, 093012 (1998) [hep-ph/9806311]

6. *Mass Signature of Supernova ν_μ and ν_τ Neutrinos in SuperKamiokande*

J. F. Beacom and P. Vogel
Phys. Rev. D **58**, 053010 (1998) [hep-ph/9802424]

5. *Matter-Enhanced Neutrino Oscillations in the Quasi-Adiabatic Limit*

A. B. Balantekin, J. F. Beacom, and J. M. Fetter
Phys. Lett. B **427**, 317 (1998) [hep-ph/9712390]

4. *Green's Function for Nonlocal Potentials*

A. B. Balantekin, J. F. Beacom, and M. A. Cândido Ribeiro
J. Phys. G **24**, 2087 (1998) [nucl-th/9709007]

3. *Semiclassical Treatment of Matter-Enhanced Neutrino Oscillations for an Arbitrary Density Profile*

A. B. Balantekin and J. F. Beacom
Phys. Rev. D **54**, 6323 (1996) [hep-ph/9606353]

2. *Production of Weak Bosons and Higgs Bosons in e^-e^- Collisions*

V. Barger, J. F. Beacom, K. Cheung, and T. Han
Phys. Rev. D **50**, 6704 (1994) [hep-ph/9404335]

Refereed Publications: (continued)**1.** *Gravitational Clustering in the Expanding Universe: Controlled High Resolution Studies in Two Dimensions*

John Francis Beacom, Kurt G. Dominik, Adrian L. Melott, Sam P. Perkins, and Sergei F. Shandarin
Astrophys. J. **372**, 351 (1991)

Other Publications:

17. *Expression of Interest: The Atmospheric Neutrino Neutron Interaction Experiment (ANNIE)*

I. Anghel *et al.* [ANNIE Collaboration]

arXiv:1402.6411 [physics.ins-det]

16. *Section on Supernova Remnants and Cosmic Rays of the White Paper on the Status and Future of Ground-based Gamma-ray Astronomy*

Martin Pohl, *et al.*

arXiv:0810.0673 [astro-ph]

15. *TeV Gamma-Rays from Photo-Disintegration/De-Excitation of Nuclei in Westerlund 2*

Luis A. Anchordoqui, John F. Beacom, Yousaf M. Butt, Haim Goldberg, Sergio Palomares-Ruiz, Thomas J. Weiler, and Justin Wesolowski

in *Proceedings of the 30th International Cosmic Ray Conference*, eds. R. Caballero *et al.* (Universidad Nacional Autonoma de Mexico, 2008) [arXiv:0706.0517 [astro-ph]]

14. *The NOvA Technical Design Report*

D. S. Ayres *et al.*

[Fermilab-Design-2007-01]

13. *TASI Lectures on Astrophysical Aspects of Neutrinos*

John F. Beacom

in *Colliders and Neutrinos: Proceedings of TASI 2006*, eds. S. Dawson and R. Mohapatra (World Scientific, 2008) [arXiv:0706.1824 [astro-ph]]

12. *Cosmic Neutrino Bound on the Dark Matter Annihilation Rate in the Late Universe*

John F. Beacom

in *Proceedings of the TeV Particle Astrophysics II Workshop*, eds. F. Halzen, A. Karle and T. Montaruli, J. Phys. Conf. Ser. **60**, 183 (2007) [astro-ph/0610922]

11. *Advanced Compton Telescope (ACT): Witness to the Fires of Creation*

Steven Boggs, *et al.*

NASA Vision Mission Concept Study Report, astro-ph/0608532

10. *NOvA: Proposal to Build a 30-kiloton Off-Axis Detector to Study $\nu_\mu \rightarrow \nu_e$ Oscillations in the NuMI Beamline*

D. S. Ayres *et al.*

hep-ex/0503053

9. *APS Neutrino Study: Report of the Neutrino Astrophysics and Cosmology Working Group*

Steve W. Barwick, John F. Beacom, *et al.*

astro-ph/0412544

8. *APS Neutrino Study: The Neutrino Factory and Beta Beam Experiments and Development*

C. Albright *et al.*

physics/0411123

7. *White Paper Report on Using Nuclear Reactors to Search for a Value of θ_{13}*

K. Anderson *et al.*

hep-ex/0402041

Other Publications: (continued)**6. *Supernovae and Neutrinos***

John F. Beacom

in *Proceedings of the XXth International Conference on Neutrino Physics and Astrophysics*, eds. F. von Feilitzsch and N. Schmitz, Nucl. Phys. Proc. Suppl. **118**, 307 (2003) [astro-ph/0209136]

5. *Supernova Neutrinos*

J. F. Beacom

in *Proceedings of the Third International Workshop on Neutrino Oscillations and their Origin*, eds. Y. Suzuki *et al.* (World Scientific, 2003) [Fermilab-Conf-02-367-A]

4. *Neutrinos from the Next Galactic Supernova*

J. F. Beacom

in *Proceedings of the 23rd Johns Hopkins Workshop on Current Problems in Particle Theory: Neutrinos in the Next Millennium*, eds. G. Domokos and S. Kovesi-Domokos (World Scientific, 2000) [hep-ph/9909231]

3. *Supernova Neutrinos and the Neutrino Masses*

J. F. Beacom

in *Proceedings of the 22nd Oaxtepec Symposium on Nuclear Physics*, Rev. Mex. Fis. **45**, Suppl. 2, 36 (1999) [hep-ph/9901300]

2. *A Semiclassical Approach to Level Crossing in Supersymmetric Quantum Mechanics*

J. F. Beacom and A. B. Balantekin

in *Springer Lecture Notes in Physics 502: Supersymmetry and Integrable Models*, eds. H. Aratyn *et al.* (Springer, 1998) [hep-th/9709117]

1. *Semiclassical Analysis of Solar Neutrino Data*

John Francis Beacom

Ph.D. Thesis, University of Wisconsin (1997)

Major Invited Conference Talks:**64.** *Frontiers in Particle Astrophysics*

HAWC Inauguration, Puebla, Mexico, March 2015

63. *Lost in Space*

TEDx Ohio State University, Columbus, Ohio, February 2015

62. *The Long-Awaited Dawn of Neutrino Astronomy*

ScienceWriters2014, Columbus, Ohio, October 2014

61. *Neutrino Astronomy: No Longer a Dream*

Astroparticle Physics (TeVPA/IDM) Conference, Amsterdam, Netherlands, September 2014

60. *Diffuse Supernova Neutrino Background*

Shanghai Particle Physics and Cosmology Symposium, Shanghai, China, May 2014

59. *Particle and Nuclear Astrophysics with Supernova Neutrinos*

International Symposium on Multiparticle Dynamics, Chicago, Illinois, September 2013

58. *The Mysterious Neutrinos — Clues from Astrophysics and Cosmology*

April Meeting of the APS, Denver, Colorado, April 2013

57. *Detection of Supernova Neutrinos*

Neutrino 2012: XXVth International Conference on Neutrino Physics and Astrophysics, Kyoto, Japan, June 2012

56. *Supernova Neutrino Astronomy*

New Windows on Transients Across the Universe, London, England, April 2012

55. *Diffuse Supernova Neutrino Background (DSNB)*

Topics in Astroparticle and Underground Physics (TAUP), Munich, Germany, September 2011

54. *High Energy Gamma-Ray and Neutrino Astrophysics*

Meeting of the APS Division of Particles and Fields, Providence, Rhode Island, August 2011

53. *Detection of Neutrinos from Galactic and Cosmic Supernovae*

Fall Meeting of the APS Division of Nuclear Physics, Los Alamos, New Mexico, November 2010

52. *Neutrino Cosmology III: New Views with Neutrinos*

SLAC Summer Institute, Palo Alto, California, August 2010

51. *Neutrino Cosmology II: Microphysics of the Hot Big Bang*

SLAC Summer Institute, Palo Alto, California, August 2010

50. *Neutrino Cosmology I: Macrophysics of the Hot Big Bang*

SLAC Summer Institute, Palo Alto, California, August 2010

49. *Diffuse Supernova Neutrino Background*

Neutrinos and Dark Matter Conference, Madison, Wisconsin, September 2009

48. *Sources of High-Energy Neutrinos*

TeV Particle Astrophysics Workshop V, SLAC, July 2009

47. *Supernova and Solar Neutrinos*

International Neutrino Summer School, Fermilab, July 2009

Major Invited Conference Talks (continued)

- 46.** *The Diffuse Supernova Neutrino Background*
RESCEU Symposium on Astroparticle Physics and Cosmology, Tokyo, Japan, November 2008
- 45.** *The Diffuse Supernova Neutrino Background*
Neutrino Frontiers Workshop, Minneapolis, Minnesota, October 2008
- 44.** *Neutrino Astrophysics and Cosmology*
Cosmo-08, Madison, Wisconsin, August 2008
- 43.** *A New Era in High Energy Astronomy*
Great Lakes Cosmology IX Workshop, Pittsburgh, Pennsylvania, June 2008
- 42.** *Astroparticle Physics in the LHC Era*
Phenomenology 2008 Symposium: LHC Turn On, Madison, Wisconsin, April 2008
- 41.** *Supernova Neutrino Detection by Future Large Volume Detectors*
Workshop on Next Generation Nucleon Decay and Neutrino Detectors (NNN07), Hamamatsu, Japan, October 2007
- 40.** *Neutrino Astronomy: Going Beyond the Sun*
Gordon Conference on Nuclear Physics, Newport, Rhode Island, July 2007
- 39.** *Direct Measurement of Supernova Neutrino Emission Parameters*
XII International Workshop on Neutrino Telescopes, Venice, Italy, March 2007
- 38.** *Summary Talk: Understanding Supernovae—From Forensics to the Future*
Twenty Years after Supernova 1987A Workshop, Waimea, Hawaii, February 2007
- 37.** *The Diffuse Supernova Neutrino Background*
Fall Meeting of the APS Division of Nuclear Physics, Nashville, Tennessee, October 2006
- 36.** *Astrophysical Aspects of Neutrinos II: High-Energy Neutrinos*
Theoretical Advanced Study Institute in Elementary Particle Physics, Boulder, Colorado, June 2006
- 35.** *Astrophysical Aspects of Neutrinos I: Supernova Neutrinos*
Theoretical Advanced Study Institute in Elementary Particle Physics, Boulder, Colorado, June 2006
- 34.** *Overview of Neutrino Cross Sections*
PANIC05 Satellite Meeting: Future of Neutrino Physics, Santa Fe, New Mexico, October 2005
- 33.** *The Cosmic Stellar Birth and Death Rates*
Astronomy with Radioactivities V, Clemson, South Carolina, September 2005
- 32.** *Quis Custodiet Ipsos Custodes? Who Will Neutrino the Neutrinos?*
TeV Particle Astrophysics Workshop, Fermilab, July 2005
- 31.** *Neutrino Physics IV: High-Energy Neutrinos*
Summer School on Particle Physics, International Centre for Theoretical Physics, Trieste, Italy, June 2005

Major Invited Conference Talks (continued)**30. *Neutrino Physics III: Supernova Neutrinos***

Summer School on Particle Physics, International Centre for Theoretical Physics, Trieste, Italy, June 2005

29. *Neutrino Physics II: Neutrino Mixing*

Summer School on Particle Physics, International Centre for Theoretical Physics, Trieste, Italy, June 2005

28. *Neutrino Physics I: Neutrino Basics*

Summer School on Particle Physics, International Centre for Theoretical Physics, Trieste, Italy, June 2005

27. *Neutrinos and Beyond*

Festival in Honor of Petr Vogel, Caltech, November 2004

26. *Towards First Glimpses of the Universe in Neutrinos*

Cosmo-04: International Workshop on Particle Physics and the Early Universe, Toronto, Ontario, September 2004

25. *Topics in Nuclear Astrophysics*

Sixteenth National Summer School in Nuclear Physics, Bar Harbor, Maine, June 2004

24. *Neutrinos in Cosmology and Astrophysics*

April Meeting of the APS, Denver, Colorado, May 2004

23. *Neutrino Astrophysics: Theoretical Status and Experimental Outlook*

Weak Interactions and Neutrinos Workshop, Lake Geneva, Wisconsin, October 2003

22. *Neutrino Masses and Mixings: Implications*

SLAC Summer Institute Topical Conference, Palo Alto, California, August 2003

21. *Neutrino Astrophysics and Cosmology*

Gordon Conference on Nuclear Physics, Waterville, Maine, July 2003

20. *Particle and Nuclear Astrophysics*

Conference on the Intersections of Particle and Nuclear Physics, New York, New York, May 2003

19. *Supernova Neutrinos: GADZOOKS!*

Trends in Neutrino Physics, Argonne National Laboratory, May 2003

18. *Precision Neutrino Astrophysics*

Theory Symposium on Rare Isotope Accelerator Science, Argonne National Laboratory, April 2003

17. *The Solution of the Solar Neutrino Problem*

Fall Meeting of the APS Division of Nuclear Physics, East Lansing, Michigan, October 2002

16. *Supernovae and Neutrinos*

Neutrino 2002: XXth International Conference on Neutrino Physics and Astrophysics, Munich, Germany, May 2002

15. *The Nu World: Navigating by the Stars (Solar Neutrinos)*

Meeting of the APS Division of Particles and Fields, Williamsburg, Virginia, May 2002

14. *Supernova Neutrinos*

NOON2001: Neutrino Oscillations and their Origin, Tokyo, Japan, December 2001

13. *Measuring the Properties of Newly-Formed Neutron Stars*

Neutron Stars Workshop, Seattle, Washington, July 2001

12. *Supernova Neutrino Physics: Measuring the Source Properties*

Physics Potential of Supernova II Neutrino Detection, Marina del Rey, California, February 2001

11. *Supernova Neutrino Observatories*

Neutrino Workshop, Seattle, Washington, September 2000

10. *Neutrinos from Supernovae*

Aspen Winter Conference on Particle Physics, Aspen, Colorado, January 2000

9. *What Can We Learn By Observing Supernova Neutrinos?*

Fall Meeting of the APS Division of Nuclear Physics, Asilomar, California, October 1999

8. *Measuring Neutrino Mass with Supernova Neutrinos*

International Conference on Astrophysics at High T and Low Tau, Sedona, Arizona, August 1999

7. *Supernova Location by Neutrinos*

Low-Energy Neutrino Physics Workshop, Institute for Nuclear Theory, Seattle, Washington, July 1999

6. *Neutrinos from the Next Galactic Supernova*

23rd Johns Hopkins Workshop on Current Problems in Particle Theory: Neutrinos in the Next Millennium, Baltimore, Maryland, June 1999

5. *Symmetries and Supersymmetries in Neutrino Physics*

Symmetry Principles in Many-Body Physics, Honolulu, Hawaii, February 1999

4. *Supernova Neutrinos and the Neutrino Masses*

22nd Symposium on Nuclear Physics, Oaxtepec, Mexico, January 1999

3. *Neutrino Properties from the Next Supernova*

Supernova Early Alert Network Workshop, Boston University, September 1998

2. *Pointing to the Supernova*

Supernova Early Alert Network Workshop, Boston University, September 1998

1. *Semiclassical Treatment of Matter-Enhanced Neutrino Oscillations for an Arbitrary Density Profile*

Supersymmetry and Integrable Models Workshop, University of Illinois at Chicago, June 1997

Seminars and Colloquia:

- 72.** *The Mysterious Neutrinos — Clues from Astrophysics and Cosmology*
Physics Colloquium, Washington University in St. Louis, September 2014
- 71.** *Supernova Neutrinos*
Academic Lectures, Fermilab, February 2014
- 70.** *Diffuse Supernova Neutrino Background (DSNB)*
Astronomy Colloquium, University of California, Berkeley, October 2012
- 69.** *Diffuse Supernova Neutrino Background (DSNB)*
KICP Colloquium, University of Chicago, May 2012
- 68.** *Diffuse Supernova Neutrino Background (DSNB)*
Astroparticle Seminar, University of Cincinnati, November 2011
- 67.** *Diffuse Supernova Neutrino Background (DSNB)*
Physics and Astronomy Colloquium, University of New Mexico, September 2011
- 66.** *Diffuse Supernova Neutrino Background (DSNB)*
Theoretical Division Seminar, Los Alamos, September 2011
- 65.** *MeV Neutrino and Gamma-Ray Emission from Massive Stars*
Space Science Colloquium, Naval Research Laboratory, February 2011
- 64.** *MeV Neutrino and Gamma-Ray Emission from Massive Stars*
Astrophysics Science Division Colloquium, NASA Goddard Space Flight Center, November 2010
- 63.** *New Vistas in Astronomy Above 1 TeV (1.6 erg) per Particle*
Physics Colloquium, Brown University, March 2009
- 62.** *New Vistas in Astronomy Above 1 TeV (1.6 erg) per Particle*
Physics Colloquium, Vanderbilt University, October 2008
- 61.** *New Vistas in Astronomy Above 1 TeV (1.6 erg) per Particle*
Particle Theory Seminar, University of Maryland, September 2008
- 60.** *Twenty-One Years in the Desert is Enough: Towards the First Detections of Astrophysical Neutrinos Since Supernova 1987A*
Physics Colloquium, Syracuse University, April 2008
- 59.** *Twenty-One Years in the Desert is Enough: Towards the First Detections of Astrophysical Neutrinos Since Supernova 1987A*
Physics and Astronomy Colloquium, University of Rochester, April 2008
- 58.** *New Vistas in Astronomy Above 1 TeV (1.6 erg) per Particle*
Astronomy Colloquium, University of Illinois at Urbana-Champaign, October 2007
- 57.** *Neutrinos from Supernova 1987A*
Physics Colloquium, Massachusetts Institute of Technology, May 2007
- 56.** *Fossil Record of Star Formation in Supernova Neutrinos and Gamma Rays*
Astrophysics Seminar, Northwestern University, April 2007

Seminars and Colloquia: (continued)

55. *Fossil Record of Star Formation in Supernova Neutrinos and Gamma Rays*
Physics Colloquium, University at Buffalo, April 2007
54. *Fossil Record of Star Formation in Supernova Neutrinos and Gamma Rays*
Physics Colloquium, Indiana University, March 2007
53. *Fossil Record of Star Formation in Supernova Neutrinos and Gamma Rays*
Physics Division Colloquium, Argonne National Laboratory, February 2007
52. *Fossil Record of Star Formation in Supernova Neutrinos and Gamma Rays*
JINA Nuclear Astrophysics Seminar, Michigan State University, January 2007
51. *Fossil Record of Star Formation in Supernova Neutrinos and Gamma Rays*
Physics Colloquium, Carnegie Mellon University, December 2006
50. *Fossil Record of Star Formation in Supernova Neutrinos and Gamma Rays*
Physics Colloquium, Iowa State University, October 2006
49. *The Diffuse Supernova Neutrino Background*
Particle Theory Seminar, Lawrence Berkeley Laboratory, April 2006
48. *The Diffuse Supernova Neutrino Background*
Kellogg Radiation Laboratory Seminar, Caltech, March 2006
47. *High-Energy Neutrino Astrophysics: Towards First Detections*
Physics Colloquium, Pennsylvania State University, February 2006
46. *Stalking the Wild Supernova Neutrino—One at a Time*
High-Energy/Astrophysics Seminar, Pennsylvania State University, February 2006
45. *Stalking the Wild Supernova Neutrino—One at a Time*
Theoretical Astrophysics Seminar, University of Florida, January 2006
44. *Towards First Glimpses of the Universe in Neutrinos*
Scientific Colloquium, NASA Goddard Space Flight Center, April 2005
43. *Towards First Glimpses of the Universe in Neutrinos*
Physics Colloquium, Yale University, March 2005
42. *Probing Supernovae with Positrons, Gamma Rays, and Neutrinos (High and Low)*
Particle Theory Seminar, Yale University, March 2005
41. *The Diffuse Supernova Neutrino Background*
High Energy Physics Seminar, Duke University, February 2005
40. *Towards First Glimpses of the Universe in Neutrinos*
Physics Colloquium, Case Western Reserve University, February 2005
39. *Towards First Glimpses of the Universe in Neutrinos*
General Colloquium, Jefferson Lab, December 2004
38. *Nuclear Astrophysics with Neutrinos, Gamma Rays, and Cosmic Rays*
Institute of Nuclear and Particle Physics Seminar, Ohio University, November 2004

Seminars and Colloquia: (continued)

- 37.** *Frontiers in Neutrino Astrophysics*
Physics and Astronomy Colloquium, University of California, Irvine, February 2004
- 36.** *Frontiers in Neutrino Astrophysics*
Tufts/CfA/MIT Cosmology Seminar, Massachusetts Institute of Technology, February 2004
- 35.** *Frontiers in Neutrino Astrophysics*
Theoretical Astrophysics Colloquium, University of Arizona, February 2004
- 34.** *Frontiers in Neutrino Astrophysics*
Physics Colloquium, The Ohio State University, January 2004
- 33.** *Detecting the Diffuse Supernova Neutrino Background*
Astrophysics Seminar, University of Notre Dame, December 2003
- 32.** *Detecting the Diffuse Supernova Neutrino Background*
High-Energy/Astrophysics Seminar, The Ohio State University, November 2003
- 31.** *Frontiers in Neutrino Astrophysics*
High-Energy/Nuclear Physics Seminar, University of Illinois at Urbana-Champaign, October 2003
- 30.** *Frontiers in Neutrino Astrophysics*
Astronomy Colloquium, University of Illinois at Urbana-Champaign, October 2003
- 29.** *Frontiers in Neutrino Astrophysics*
Center for Cosmological Physics Colloquium, University of Chicago, April 2003
- 28.** *Frontiers in Neutrino Astrophysics*
Astrophysics and Cosmology Seminar, University of Minnesota, March 2003
- 27.** *Frontiers in Neutrino Astrophysics*
Physics Colloquium, Stanford University, February 2003
- 26.** *Frontiers in Neutrino Astrophysics*
HEP Division Seminar, Argonne National Laboratory, February 2003
- 25.** *Supernova Neutrino Physics and Astrophysics*
HEP Seminar, University of Illinois at Chicago, January 2003
- 24.** *Supernova Neutrino Physics and Astrophysics*
Physics Colloquium, University of Chicago, April 2002
- 23.** *Supernova Neutrino Physics and Astrophysics*
Astrophysics Colloquium, University of Wisconsin, March 2002
- 22.** *Astrophysical Aspects of Neutrino-Nucleon Scattering*
Indiana University Cyclotron Facility Seminar, Indiana University, November 2001
- 21.** *Supernova Neutrinos*
Colloquium, Fermilab, November 2001
- 20.** *Astrophysical Aspects of Neutrino-Nucleon Scattering*
Nuclear Science Seminar, Michigan State University, August 2001

Seminars and Colloquia: (continued)

- 19.** *New Astrophysical Tests: With Neutrinos, and Of Neutrinos*
Theoretical Physics Seminar, SLAC, June 2001
- 18.** *New (Theoretical) Results in Supernova Neutrino Detection*
Quarks, Hadrons, and Nuclei Theory Seminar, University of Maryland, May 2001
- 17.** *A New Look at the Neutrino Magnetic Moments*
High Energy Physics Seminar, Caltech, June 2000
- 16.** *Black Hole Formation in Core-Collapse Supernovae and Direct Measurements of Neutrino Masses*
Theoretical Astrophysics and Relativity Seminar, Caltech, May 2000
- 15.** *Neutrinos from the Next Galactic Supernova*
Nuclear Science Division Colloquium, Lawrence Berkeley Laboratory, March 2000
- 14.** *New Tests of Neutrino Properties with Solar and Supernova Neutrinos*
Theoretical Astrophysics Seminar, Fermilab, January 2000
- 13.** *Neutrino Mass Constraints from Supernovae*
Institute for Nuclear Theory Seminar, University of Washington, July 1999
- 12.** *Neutrinos from the Next Galactic Supernova*
Particle/Nuclear Physics Seminar, University of California – Los Angeles, May 1999
- 11.** *Supernova Neutrinos and the Neutrino Masses*
High Energy Physics Seminar, Caltech, May 1999
- 10.** *Neutrinos from the Next Galactic Supernova*
High Energy Physics Seminar, University of Pennsylvania, April 1999
- 9.** *Neutrinos from the Next Galactic Supernova*
Nuclear/Particle Astrophysics Seminar, Princeton University, April 1999
- 8.** *Neutrinos from the Next Supernova*
Physics Department Colloquium, University of Kansas, November 1998
- 7.** *SuperKamiokande and Neutrinos from the Next Supernova*
Particles and Fields Seminar, Boston University, September 1998
- 6.** *Mass Signature of Supernova ν_μ and ν_τ Neutrinos in the Sudbury Neutrino Observatory*
Institute for Nuclear and Particle Astrophysics Seminar, Lawrence Berkeley Laboratory, May 1998
- 5.** *How to Measure the Mu and Tau Neutrino Masses with a Supernova*
Astrophysics Seminar, University of California – San Diego, April 1998
- 4.** *Mass Signature of Supernova ν_μ and ν_τ Neutrinos in SuperKamiokande*
Kellogg Radiation Laboratory Seminar, Caltech, March 1998
- 3.** *Semiclassical Treatment of Matter-Enhanced Neutrino Oscillations for an Arbitrary Density Profile*
Theory Seminar, Argonne National Laboratory, March 1997

Seminars and Colloquia: (continued)

2. *Semiclassical Treatment of Matter-Enhanced Neutrino Oscillations for an Arbitrary Density Profile*

Medium-Energy Theory Seminar, Los Alamos National Laboratory, January 1997

1. *Semiclassical Treatment of Matter-Enhanced Neutrino Oscillations for an Arbitrary Density Profile*

Nuclear Theory Seminar, University of Washington, January 1997

Other Conference Talks:

- 26.** *TeV Gamma Ray and Neutrino Sources in the Milky Way*
Institute on Gravitation and the Cosmos Workshop, Pennsylvania State University, August 2007
- 25.** *General Upper Bound on the Dark Matter Total Annihilation Cross Section*
TeV Particle Astrophysics Workshop II, Madison, Wisconsin, August 2006
- 24.** *Revealing the Supernova–Gamma-Ray Burst Connection with TeV Neutrinos*
New Views of the Universe, Chicago, Illinois, December 2005
- 23.** *Spallation Backgrounds Underground*
Frontiers in Contemporary Physics III, Nashville, Tennessee, May 2005
- 22.** *High Energy Neutrino Astrophysics*
Frontiers in Contemporary Physics III, Nashville, Tennessee, May 2005
- 21.** *Neutrinos in the Cosmos: Working Group and Neutrino Study Draft Conclusions*
APS Neutrino Study Final Meeting, Snowmass, Colorado, June 2004
- 20.** *Astrophysics/Cosmology Working Group: Final Report*
APS Neutrino Study Final Meeting, Snowmass, Colorado, June 2004
- 19.** *Astrophysics/Cosmology Working Group: Update*
APS Neutrino Study Midcourse Meeting, Lawrence Berkeley Laboratory, April 2004
- 18.** *Astrophysics and Cosmology: Impact of Neutrino Oscillation Measurements*
Neutrino Factory / Beta Beams Working Group Meeting, Argonne, March 2004
- 17.** *Astrophysics/Cosmology Working Group: Plans*
APS Neutrino Study Kickoff Meeting, Argonne, December 2003
- 16.** *Astrophysics/Cosmology Working Group: Visions*
APS Neutrino Study Kickoff Meeting, Argonne, December 2003
- 15.** *High-Energy Astrophysical Neutrino Decay*
April Meeting of the APS, Philadelphia, Pennsylvania, April 2003
- 14.** *Reactor θ_{13} Measurement*
Mini-Workshop on Reactor Theta-13 Experiments, Fermilab, March 2003
- 13.** *Summary of Supernova Neutrinos Working Group*
Conference on Underground Science, Lead, South Dakota, October 2001
- 12.** *Supernova Neutrinos: Black Hole Formation and the Neutrino Masses*
Frontiers in Contemporary Physics II, Nashville, Tennessee, March 2001
- 11.** *Supernova Neutrino Detection: New Possibilities and Needs*
Neutrino Workshop, Seattle, Washington, September 2000
- 10.** *A New Direct Limit on the Neutrino Magnetic Moment*
April Meeting of the APS, Long Beach, California, April 2000
- 9.** *Towards the Centers of the Stars: Solar and Supernova Neutrinos*
Cosmic Genesis and Fundamental Physics, Sonoma, California, October 1999

Other Conference Talks: (continued)**8.** *Neutrino Mass Tests with Supernovae*

Second Meeting of the German-American Young Scholars' Institute on Astroparticle Physics, Munich, Germany, September 1999

7. *Mass Signature of Supernova Mu and Tau Neutrinos*

Fall Meeting of the APS Division of Nuclear Physics, Santa Fe, New Mexico, October 1998

6. *Mu and Tau Neutrino Masses From Supernova Neutrino Detection*

Neutrino Physics and Astrophysics Workshop, Aspen Center for Physics, Aspen, Colorado, June 1998

5. *Semiclassical Treatment of Matter-Enhanced Neutrino Oscillations for an Arbitrary Density Profile*

Pheno '97: Recent Developments in Phenomenology, University of Wisconsin, March 1997

4. *Semiclassical Treatment of Matter-Enhanced Neutrino Oscillations for an Arbitrary Density Profile*

Midwest Nuclear Theory Get-Together, Argonne National Laboratory, September 1996

3. *Semiclassical Treatment of Matter-Enhanced Neutrino Oscillations for an Arbitrary Density Profile*

Nucleosynthesis in the Big Bang, Stars, and Supernovae, Institute for Nuclear Theory, University of Washington, August 1996

2. *Analytic Treatment of Solar Neutrino Oscillations*

Fall Meeting of the APS Division of Nuclear Physics, Bloomington, Indiana, October 1995

1. *Analytic Treatment of the MSW Problem*

Midwest Nuclear Theory Get-Together, Argonne National Laboratory, September 1995

Professional Activities–Advisory:

- Grant reviewer for many funding agencies worldwide
- Manuscript reviewer for many professional journals worldwide
- Personnel reviewer (hiring, promotion, and tenure decisions) for many institutions worldwide
- Reviewer for the National Research Council Decadal Survey on Nuclear Physics, 2011
- Divisional Associate Editor for Astrophysics, Physical Review Letters, 2015–2018
- Member of the Advisory Board Committee, INSPIRE (SPIRES), 2011–present
- Member of the Program Review Team for the Department of Physics, Illinois Institute of Technology, September 2012
- Member of Physics and Astronomy Alumni Advisory Board, University of Kansas, 2007–2011
- External Ph.D. thesis examiner for Matthew Malek (*A Search for Supernova Relic Neutrinos [in Super-Kamiokande]*), Department of Physics, SUNY Stony Brook, May 2003
- External Ph.D. thesis examiner for Jaret Heise (*A Search for Supernova Neutrinos with the Sudbury Neutrino Observatory*), Department of Physics and Astronomy, University of British Columbia, December 2001
- Guest member of the Editorial Committee for Volume 58 (2008) and Volume 52 (2002), Annual Review of Nuclear and Particle Science
- Contributing consultant to the report *Opportunities in Nuclear Astrophysics: Conclusions of a Town Meeting held at the University of Notre Dame, 7-8 June 1999*

Professional Activities–Conference Organization:

- Member of the Steering Committee for the Cosmo conference series, 2002–present
- Member of the Scientific Organizing Committee, TeV Particle Astrophysics Workshop 2013, Irvine, California, August 2013
- Member of the Scientific Organizing Committee, TeV Particle Astrophysics Workshop 2012, Mumbai, India, December 2012
- Member of the Program Advisory Committee, 2011 Workshop on Next Generation Nucleon and Neutrino Detectors (NNN11), Zurich, Switzerland, November 2011
- Member of the Scientific Organizing Committee, TeV Particle Astrophysics Workshop 2011, Stockholm, Sweden, August 2011
- Member of the Program Advisory Committee, 2010 Workshop on Next Generation Nucleon and Neutrino Detectors (NNN10), Toyama, Japan, December 2010
- Member of the Scientific Organizing Committee, TeV Particle Astrophysics Workshop 2010, Paris, France, July 2010
- Co-organizer for the Second Workshop on Novel Searches for Dark Matter with Neutrino Telescopes, Columbus, Ohio, July 2010
- Member of the Program Advisory Committee, 2009 Workshop on Next Generation Nucleon and

Neutrino Detectors (NNN09), Estes Park, Colorado, October 2009

- Member of the Scientific Organizing Committee, TeV Particle Astrophysics Workshop 2009, SLAC, July 2009
- Member of the Scientific Program Committee, Sixth International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region (NuInt09), Barcelona, Spain, May 2009
- Co-organizer for the Workshop on Novel Searches for Dark Matter with Neutrino Telescopes, Columbus, Ohio, November 2008
- Member of the Program Advisory Committee, 2008 Workshop on Next Generation Nucleon and Neutrino Detectors (NNN08), Paris, France, September 2008
- Member of the Steering Committee, TeV Particle Astrophysics Workshop 2008, Beijing, China, September 2008
- Co-convenor for “High-Energy Neutrinos” and Member of the Scientific Advisory Committee, TeV Particle Astrophysics Workshop 2007, Venice, Italy, August 2007
- Convenor for “Origins of High-Energy Particles,” Institute for Gravitation and Cosmology Workshop, Pennsylvania State University, August 2007
- Member of the Scientific Program Committee, Fifth International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region (NuInt07), Fermilab, Batavia, Illinois, May 2007
- Member of the International Advisory Committee, Twenty Years after Supernova 1987A Workshop, Waimea, Hawaii, February 2007
- Co-convenor for “Neutrino Astrophysics,” Neutrino Pre-Town Meeting, Santa Fe, New Mexico, November 2006
- Co-convenor for “Particle Astrophysics,” Joint Meeting of the Pacific Region Particle Physics Communities, Honolulu, Hawaii, October 2006
- Member of the Scientific Advisory Committee, TeV Particle Astrophysics Workshop 2006, Madison, Wisconsin, August 2006
- Co-organizer for Fundamental Astro-Particle Physics Workshop, Columbus, Ohio, May 2006
- Co-convenor for “Early Universe,” New Views of the Universe, Chicago, Illinois, December 2005
- Member of the Organizing and Program Committee, Fourth International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region (NuInt05), Okayama, Japan, September 2005
- Member of the Organizing Committee, TeV Particle Astrophysics Workshop, Fermilab, Batavia, Illinois, July 2005
- Member of the Program Committee, Weak Interactions and Neutrinos (WIN05), Delphi, Greece, June 2005
- Member of the Organizing Committee, Workshop on Gravitational Lensing, Dark Energy, and Dark Matter, Columbus, Ohio, January 2005
- Co-chair (with Jens Erler and Michael Ramsey-Musolf) of the Organizing Committee for From Zero to Z^0 : A Workshop on Precision Electroweak Physics, Fermilab, Batavia, Illinois, May 2004

- Member of the Organizing and Program Committee, Third International Workshop on Neutrino-Nucleus Interactions in the Few-GeV Region (NuInt04), Gran Sasso, Italy, March 2004
- Co-organizer of Workshop on Neutrino News from the Lab and the Cosmos, Fermilab, Batavia, Illinois, October 2002
- Co-chair (with Sean Carroll and Evalyn Gates) of the Local Organizing Committee for Cosmo-02: International Workshop on Particle Physics and the Early Universe, Adler Planetarium, Chicago, Illinois, September 2002
- Working group co-convener for “Supernova Neutrinos,” Conference on Underground Science, Lead, South Dakota, October 2001
- Working group co-convener for “Solar Neutrinos and Neutrino Astrophysics,” Long Range Plan for Nuclear Science – Town Meeting on Astrophysics, Neutrinos, and Symmetries, Berkeley, California, November 2000
- Co-organizer of the “Workshop on Quark and Lepton Mixing,” Fall Meeting of the APS Division of Nuclear Physics, Asilomar, California, October 1999

Professional Activities—Education and Public Outreach:

- Leading the many and varied outreach activities of CCAPP, including organizing public lectures, providing science content for diverse audiences, partnering with local organizations like the STEAM Factory and COSI, and more, 2011–present
- Education and Public Outreach efforts to Deaf (and Hard of Hearing) students and their teachers as part of my NSF CAREER award and its renewal, 2005–present
- Active in Education and Public Outreach efforts at Fermilab: frequent lectures to groups of visiting students of all ages, the public (at Adler Planetarium), Fermilab graduate students (Tevatron University), local high school students (Saturday Morning Physics), Fermilab non-technical staff (Physics for Everyone), and visiting teachers; consultant on exhibits for the Lederman Science Center; frequent contact with the press and the public discussing physics; etc., 2000–2004
- Member of the Nuclear Science Wallchart Committee; co-author of *Nuclear Science – A Teacher’s Guide to the Nuclear Science Wall Chart*, G. Aubrecht *et al.* (Contemporary Physics Education Project, 1998)

Professional Activities—Funding:

- Principal Investigator, “New Frontiers in Nuclear Astrophysics,” NSF award PHY-1404311, 2014-2017, \$495k total
- Principal Investigator, “New Frontiers in Nuclear Astrophysics,” NSF award PHY-1101216, 2011-2014, \$497k total
- Principal Investigator, “CAREER: New Frontiers in Nuclear Astrophysics,” NSF CAREER award PHY-0547102, 2005-2011, \$654k total
- Co-Investigator, “Astrophysical Tests of Fundamental Physics,” funded proposal to the NASA Astrophysics Theory Program, 2004-2006 (PI Scott Dodelson)
- Co-Investigator, “Astrophysical Tests of Fundamental Physics,” funded proposal to the NASA

Astrophysics Theory Program, 2001-2003 (PI Rocky Kolb)

Professional Activities–Local Committees:

- Director of the Center for Cosmology and Astro-Particle Physics, The Ohio State University, 2011–present
- Member of the Science Board, Center for Cosmology and Astro-Particle Physics, The Ohio State University, 2008–2011
- Member of the Science Sundays Outreach Committee, College of Arts and Sciences, The Ohio State University, 2011–present
- Member of the Presidential Fellowships Committee, The Ohio State University, 2007–2011
- Member of Physics Department committees, The Ohio State University: Budget 2006–2009; Graduate Studies 2004–2006, 2008–2009; Public Relations 2008–2009; Personnel Resources 2009–2012; Particle Astrophysics Experiment Faculty Search 2010–2011 (Chair); Particle Physics Theory Faculty Search 2011–2012; Particle Astrophysics Theory Faculty Search 2011–2012 (Chair)
- Member of the Colloquium Committee, Fermilab, 2002–2004
- Organizer of the Theoretical Astrophysics Seminars, Fermilab, 2000–2001

Professional Activities–National Committees:

- Elected to the Chair line, Division of Astrophysics, American Physical Society, 2012–2016 (presently Chair)
- Member of the Mentoring Award Committee, Division of Nuclear Physics, American Physical Society, 2012–2013
- Member of the Bethe Prize Committee, Division of Astrophysics, American Physical Society, 2012–2013, 2013–2014 (Vice Chair), 2014–2015 (Chair)
- Member of the Program Committee, Division of Nuclear Physics, American Physical Society, 2010–2012
- Member of the “Task Force on the April Meeting” (convened by Dr. Judy Franz), American Physical Society, 2006
- Elected member of the Executive Committee, Division of Astrophysics, American Physical Society, 2004–2006
- Member of the Nominating Committee, Division of Nuclear Physics, American Physical Society, 2004–2005
- Member of the Science Working Group for the NASA Advanced Compton Telescope Concept Study (PI Steve Boggs), 2004–2006
- Member of the National Nuclear Physics Summer School Steering Committee, 2003–2007 (Chair 2004–2005)
- Co-leader (with Steve Barwick) of the Astrophysics/Cosmology Working Group, APS Neutrino Study, 2003–2004

Professional Activities—Postdocs and Students:

- Organizer of the Theoretical Astrophysics postdoc search, Fermilab, 2000–2003; I had an especially important role in recruiting, mentoring, and working with Kev Abazajian, Nicole Bell, Gianfranco Bertone, and Pengjie Zhang

- Organizer of or participant in the astrophysics/CCAPP postdoc search, The Ohio State University, 2004–present; I had/have/will have an especially important role in recruiting, mentoring, and working with Hasan Yüksel, Jennifer Siegal-Gaskins, Carsten Rott, Michael Stamatikos, Haojing Yan, Shunsaku Horiuchi, Basu Dasgupta, Kohta Murase, Sheldon Campbell, and Mauricio Bustamante

- Graduate students working with me presently:

Eric Speckhard (The Ohio State University, Ph.D. Physics student)

Shirley Li (The Ohio State University, Ph.D. Physics student)

Kenny Ng (The Ohio State University, Ph.D. Physics student)

- Graduate students who worked with me on publications and/or part of their thesis:

Ranjan Laha (The Ohio State University, Ph.D. Physics 2014)

Rubab Khan (The Ohio State University, Ph.D. Astronomy 2014)

Ben Shappee (The Ohio State University, Ph.D. Astronomy 2014)

Brian Lacki (The Ohio State University, Ph.D. Astronomy 2011)

Warren Essey (University of California, Los Angeles, Ph.D. Physics 2011)

Thomas Jacques (University of Melbourne, Ph.D. Physics 2011)

Amy Lien (University of Illinois, Ph.D. Astronomy 2011)

Matt Kistler (The Ohio State University, Ph.D. Physics 2010)

Kohta Murase (Kyoto University, Ph.D. Physics 2010)

Shunsaku Horiuchi (University of Tokyo, Ph.D. Physics 2009)

José Prieto (The Ohio State University, Ph.D. Astronomy 2009)

Greg Mack (The Ohio State University, Ph.D. Physics 2008)

John Cairns (The Ohio State University, M.S. Physics 2007)

Susan Dorsher (The Ohio State University, M.S. Astronomy 2006)

Tijana Prodanović (University of Illinois, Ph.D. Astronomy 2006)

Casey Watson (The Ohio State University, Ph.D. Physics 2006)

Shin'ichiro Ando (University of Tokyo, Ph.D. Physics 2005)

Louis Strigari (The Ohio State University, Ph.D. Physics 2005)

Hasan Yüksel (University of Wisconsin, Ph.D. Physics 2005)

Julián Candia (National University of La Plata, Ph.D. Physics 2004)

Dan Hooper (University of Wisconsin, Ph.D. Physics 2003)

Sergio Palomares-Ruiz (University of Valencia, Ph.D. Physics 2003)

Patrick Crotty (University of Chicago, Ph.D. Physics 2002)

Bonnie Fleming (Columbia University, Ph.D. Physics 2002)

- Undergraduate students who worked with me on research:

Jenny Ginter (University of Illinois, B.S. Astronomy 2010)

Will Farr (Caltech, B.S. Physics 2003)

Matthew Sharp (Columbia University, B.A. Physics 2002)