

Scott L. Nutter

Refereed Publications

1. "The Cosmic Ray Energetics and Mass (CREAM) timing charge detector." H.S. Ahn et al. (CREAM Collaboration), *Nucl. Inst. & Meth. A* 602, 525-536 (2009).
2. "Energy Spectra of Cosmic-ray Nuclei at High Energies." H.S. Ahn et al. (CREAM Collaboration), *Astrophys. J.*, 707, 593-603 (2009).
3. "Approaching the Spectral Knee in High Energy Cosmic Rays with CREAM." E. S. Seo et al., *Journal of the Physical Society of Japan, Suppl. A*, 78, 63-67, 2009.
4. "Measurements of cosmic-ray secondary nuclei at high energies with the first flight of the CREAM balloon-borne experiment." H.S. Ahn et al. (CREAM collaboration), *Astroparticle Physics*, Vol. 30, Issue 3, pp. 133-141, 2008.
5. "Preliminary results from the second flight of CREAM." P.S. Marrocchesi et al., *Advances in Space Research*, Vol. 41, Issue 12, pp. 2002-2009, 2008.
6. "CREAM: 70 days of flight from 2 launches in Antarctica." E. S. Seo et al., *Advances in Space Research*, 42, 1656-1663, 2008.
7. "First measurements of cosmic-ray nuclei at high energy with CREAM." S. Wakely et al., *Advances in Space Research*, Vol. 42, Issue 3, pp. 403-408, 2008.
8. "Design and performance in the first flight of the transition radiation detector and charge detector of the CREAM balloon instrument." S. Coutu et al., *Nucl. Inst. Meth. A*, 572, 485-487, 2007
9. "Silicon charge detector for the CREAM experiment." I.H. Park et al., *Nucl. Instrum. Methods A*, 570, 286-291 2007.
10. "The Cosmic Ray Energetics And Mass (CREAM) instrument." H. S. Ahn et al., *Nucl. Instrum. Methods A*, 579, 1034-1053, 2007.
11. "Silicon charge detector for the CREAM experiment." I.H. Park et al., *Nucl. Instrum. Methods A*, 570, 286-291 2007.
12. "Approaching the Knee with Direct Measurements." E. S. Seo et al., *Nuclear Physics B - Proc. Suppl.*, 175-176C, 155-161, 2007
13. "Performance of CREAM Calorimeter: Results of Beam Tests." H. S. Ahn et al., *Nuclear Physics B(Proc. Suppl.)*, 150, 272-275, 2006.
14. "The First Flight of the CREAM Silicon Charge Detector." N. H. Park, H.S. Ahn, O. Ganel, K.C. Kim, M.H. Lee, L. Lutz, A. Malinin, E.S. Seo, R. Sina, J. Wu, Y.S.Yoon, S.Y. Zinn, P. Boyle, S. Swordy, S. Wakely, N.B. Conklin, S. Coutu, S.I. Mognet, P. Allison, J.J. Beatty, J.T. Childers, M.A. Duvernois, M.G. Bagliesi, G. Bigongiari, P. Maestro, P.S. Marrocchesi, R. Zei, J.H. Han, H.J. Hyun, J. A. Jeon, J. K. Lee, S.W. Nam, I.H. Park, J. Yang, S. Nutter, S. Minnick, H. Park . *J. of Korean Physical Society*. 49, No. 2, 815-818, 2006.
15. "CREAM - Pushing the High Energy Frontier of Directly Measured Cosmic Rays." O. Ganel, H.S. Ahn, K.C. Kim, M.H. Lee, L. Lutz, A. Malinin, E.S. Seo, R. Sina, J. Wu, Y.S.Yoon, S.Y. Zinn, P. Boyle, S. Swordy, S. Wakely, N.B. Conklin, S. Coutu, S.I. Mognet, P. Allison, J.J. Beatty, J.T. Childers, M.A. Duvernois, M.G. Bagliesi, G. Bigongiari, P. Maestro, P.S. Marrocchesi, R. Zei, J.H. Han, H.J. Hyun, J. A. Jeon, J. K. Lee, S.W. Nam, I.H. Park, N.H. Park, J. Yang, S. Nutter, S. Minnick, H. Park. *Czech. J. Phys.* 56, A301-A312, 2006
16. "New measurement of the altitude dependence of the atmospheric muon intensity" J.J. Beatty et al. *Phys. Rev. D* 70, 092005 (2004).

17. "Cosmic-ray energetics and mass (CREAM) balloon project." E.S. Seo, H.S. Ahn, J.J. Beatty, S. Coutu, M.J. Choi, M.A. DuVernois, O. Ganel, T.G. Kang, K.C. Kim, M.H. Lee, L. Lutz, P.S. Marrocchesi, S. Minnick, K.W. Min, S. Nutter, H. Park, I.H. Park, E. Schindhelm, R. Sina, S. Swordy, J. Wu, J. Yang, *Advances in Space Research*, Volume 33, Issue 10, 1777-1785, 2004
18. "New measurement of the cosmic-ray positron fraction from 5 to 15 GeV." J.J. Beatty et al., *Phys. Rev. Lett.* 93, 241102 (2004).
19. "Cosmic Ray Energetics and Mass (CREAM) Balloon Experiment," E. S. Seo, H. S. Ahn, S. Beach, J.J. Beatty, S. Coutu, M.A. DuVernois, O. Ganel, Y. J. Han, H. J. Kim, S. K. Kim, M. H. Lee, L. Lutz, S. Nutter, S. Swordy, and J.Z. Wang, *Advances in Space Research*, 30(5), 1263-1272, 2002.
20. "Measurement of the cosmic ray antiproton to proton abundance ratio between 4 and 50 GeV" (A.S. Beach, J.J. Beatty, A. Bhattacharyya, C. Bower, S. Coutu, M.A. DuVernois, A.W. Labrador, S. McKee, S.A. Minnick, D. Muller, J. Musser, S. Nutter, M. Schubnell, S. Swordy, G. Tarle, and A. Tomasch) *Phys. Rev. Lett.* **87** 271101 (2001).
21. "Cosmic ray electrons and positrons from 1-100 GeV: measurements with HEAT and their interpretation." S.W. Barwick, J.J. Beatty, A. Bhattacharyya, C.R. Bower, C.J. Chaput, S. Coutu, G.A. de Nolfo, M.A. DuVernois, D. M. Lowder, S. McKee, D. Muller, J.A. Musser, S.L. Nutter, E. Schneider, S.P. Swordy, G. Tarle, A.D. Tomasch and E. Torbet *Astrophysical Journal*. **559**, 296-303 (2001).
22. "Energy Spectra, Altitude Profiles and Charge Ratios of Atmospheric Muons" (S. Coutu, J.J. Beatty, M.A. DuVernois, S.W. Barwick, E. Schneider, A. Bhattacharyya, C.R. Bower, J.A. Musser, A. Labrador, D. Müller, S.P. Swordy, E. Torbet, C.J. Chaput, S. McKee, G. Tarle, A.D. Tomasch, S.L. Nutter and G.A. de Nolfo). *Phys. Rev. D.* **62**, 032001 (2000).
23. "A Measurement of the Isotopic Composition of Cosmic Ray Helium, Lithium, Beryllium, and Boron up to 1700MeV/amu." (S.P. Ahlen, N.R. Greene, D. Loomba, J.W. Mitchell, C.R. Bower, R.M. Heinz, S.L. Mufson, J. Musser, J.J. Pitts, G.M. Spiczak, J. Clem, T.G. Guzik, M. Lijowski, J.P. Wefel, S. McKee, S. Nutter, A. Tomasch, J.J. Beatty, D.J. Ficenec, and S. Tobias) *Astrophysical Journal*. **534**, p.757 (2000).
24. "Cosmic-Ray Positrons: Are there primary sources?" (S. Coutu, S.W. Barwick, J.J. Beatty, A. Bhattacharyya, C.R. Bower, C.J. Chaput, G.A. de Nolfo, M.A. DuVernois, A. Labrador, S. McKee, D. Muller, J.A. Musser, S.L. Nutter, E. Schneider, S.P. Swordy, G. Tarle, A.D. Tomasch and E. Torbet). *Astroparticle Physics* **11**, pp. 429-435 (1999).
25. "The Energy Spectra and Relative Abundances of Electrons and Positrons in the Galactic Cosmic Radiation." (S.W. Barwick, J.J. Beatty, C.R. Bower, C. Chaput, G. de Nolfo, D. Ficenec, J. Knapp, D.M. Lowder, S. McKee, D. Muller, J.A. Musser, S.L. Nutter, E. Schneider, S.P. Swordy, K.H. Tang, G. Tarle, A.D. Tomasch and E. Torbet) *Astrophysical Journal* vol. 498 n. 2 pp. 779-789 (1998).
26. "Cosmic ray reentrant electron albedo: High-Energy Antimatter Telescope balloon measurements from Fort Sumner, New Mexico." (S.W. Barwick, J.J. Beatty, C.R. Bower, C.J. Chaput, S. Coutu, G.A. de Nolfo, M.A. DuVernois, D. Ficenec, J. Knapp, D.M. Lowder, S. McKee, D. Muller, J.A. Musser, S.L. Nutter, E. Schneider, S.P. Swordy, G. Tarle, A.D. Tomasch and E. Torbet) *Journal of Geophysical Research* **103**, 4817 (1998).
27. "Performance of the High-Energy Antimatter Telescope (HEAT): A Magnet Spectrometer- Based Instrument for the Study of Cosmic Ray Positrons." (A.D. Tomasch, S.W. Barwick, J.J. Beatty, C.R. Bower, C. Chaput, S. Coutu, G. de Nolfo, D. Ellithorpe, D. Ficenec, J. Knapp, D.M. Lowder, S. McKee, D. Muller, J. A. Musser, S. L. Nutter, E. Schneider, S. P. Swordy, K.K. Tang, G. Tarle, and E. Torbet) *Nuclear Instruments and Methods in Physics Research* **A400, 34** (1997).
28. "Measurements of the Cosmic-Ray Positron Fraction from 1 to 50 GeV." (S.W. Barwick, J.J. Beatty, C.R. Bower, C. Chaput, G. de Nolfo, D. Ficenec, J. Knapp, D.M. Lowder, S. McKee, D. Muller, J.A. Musser, S.L. Nutter, E. Schneider, S.P. Swordy, K.H. Tang, G. Tarle, A.D. Tomasch and E. Torbet) *Astrophysical Journal* **482** (1997) L191.
29. "Cosmic ray positrons at high energies: a new measurement." (S.W. Barwick, J.J. Beatty, C.R. Bower, C. Chaput, G. de Nolfo, D. Ficenec, J. Knapp, D.M. Lowder, S. McKee, D. Muller, J.A. Musser, S.L. Nutter, E. Schneider, S.P. Swordy, K.H. Tang, G. Tarle, A.D. Tomasch and E. Torbet) *Physics Review Letters* **75** (1995) 390.
30. "Performance of the HEAT Spectrometer of Cosmic Ray Electrons and Positrons" (Muller, D. et al) *Nuclear Instruments and Methods* **A367**, 71 (1995)

31. "Study of the Primary Cosmic Ray Composition Around the Knee of the Energy Spectrum." (The MACRO and EAS-TOP Collaborations) *Phys. Lett. B* **337** (1994).
32. "Results of radiation hardness tests and performance tests of the HS9008RH flash analog to digital convertor." (S. Nutter, G. Tarle, H.B. Crawley, R. McKay, W.T. Meyer, E.I. Rosenberg, and W.D. Thomas) *IEEE Transactions on Nuclear Science*, **41** (1994) 1197-1202.
33. "Characterization and radiation testing of the HS9008RH flash analog to digital convertor." (H.B. Crawley, R. McKay, W.T. Meyer, S. Nutter, E.I. Rosenberg, G. Tarlè, and W.D. Thomas) *Nuclear Instruments and Methods in Physics Research A* **345** (1994) 329-336.
34. "Search for slow moving monopoles with the MACRO detector." (The MACRO Collaboration) *Phys. Rev. Lett.*, **72** (1994) 608.
35. "Coincident Observation of Air Cerenkov Light by a Surface Array with Muon Bundles by a Deep Underground Detector ." (The GRACE and MACRO Collaboration), *Physical Review D*, **50**, (1994) 3046.
36. "Balloon observations of galactic cosmic ray helium before and during a flare-induced Forbush decrease." (J. J. Beatty, D. J. Ficenec, S. Tobias, J. W. Mitchell, S. McKee, S. Nutter, A. Tomasch, G. Tarlè, J. Clem, T. G. Guzik, M. Lijowski, J. P. Wefel, C. R. Bower, R. M. Heinz, S. L. Mufson, J. A. Musser, J. Pitts, G. M. Spiczak) *Geophysical Research Letters*, **20** (1993) 1743-1746.
37. "The cosmic ray $^3\text{He}/^4\text{He}$ ratio from 100 MeV/amu to 1600 MeV/amu." (J. J. Beatty, D. J. Ficenec, S. Tobias, J. W. Mitchell, S. McKee, S. Nutter, A. Tomasch, G. Tarle, J. Clem, T. G. Guzik, M. Lijowski, J. P. Wefel, C. R. Bower, R. M. Heinz, S. L. Mufson, J. A. Musser, G.M. Spiczak, S. P. Ahlen, and B. Zhou) *Astrophysical Journal* **413**:268–280 (1992).
38. "Muon Astronomy with the MACRO detector." (The MACRO collaboration) *Astrophysical Journal*, **412** (1993) 301-311.
39. "First Supermodule of the MACRO Detector at Gran Sasso." (The MACRO Collaboration), *Nuclear Instruments and Methods in Physics Research*, **A324** (1992) 337-362.
40. "High resolution drift tube hodoscopes for cosmic ray studies." (A.D. Tomasch, *et al.* The PBAR, SMILI, and HEAT Collaborations) *Nuclear Instruments and Methods in Physics Research*, **A323** (1992) 65–70.
41. "Study of the Ultra-High Energy Primary Composition with the MACRO Experiment at Gran Sasso." (The MACRO Collaboration), *Physical Review D*, **46**, (1992) 895-902.
42. "Measurement of the decoherence function with the MACRO detector at Gran Sasso." (The MACRO Collaboration), *Physical Review D*, **46**, (1992) 4836-4845.
43. "Search for neutrino bursts from collapsing stars with the MACRO detector at Gran Sasso." (The MACRO Collaboration), *Astroparticle Physics*, **1** (1992) 11-25.
44. "Search for Nuclearites using the MACRO detector." (The MACRO Collaboration), *Physical Review Letters*, **69** (1992) 1860.
45. "Muon astronomy with the MACRO detector." (The MACRO Collaboration), *Astrophysical Journal*, **412**, (1993) 301--311.
46. "GRACE: a prototype for the Gran Sasso Air Cherenkov Experiment." (D. S. Levin, B. C. Barish, A. Habig, E. Diehl, J. Handel, M. Kertzman, S. Mufson, J. Musser, S. Nutter, G. Sembroski, G. Tarle) *Nuclear Instruments and Methods in Physics Research* **A322** (1992) 101–115.
47. "A spectrophotometer for measuring long attenuation lengths." (A. K. Komives, C. R. Bower, M. W. Gebhard, R. M. Heinz, S. Nutter, J. Pitts, G. M. Spiczak, S. P. Ahlen) *Nuclear Instruments and Methods in Physics Research* **A317**(1992) 170–174.
48. "Sintered Halon as a diffuse reflecting lining for light integration boxes." (S. L. Nutter, C. R. Bower, M. W. Gebhard, R. M. Heinz, and G. Spiczak) *Nuclear Instruments and Methods in Physics Research* **A310**(1991) 665–670.

49. “The transmittance of a hollow specularly reflecting cylindrical light pipe of isotropically incident radiation.” (S.L. Nutter, C.R. Bower, M.W. Gebhard, and R.M. Heinz) *Nuclear Instruments and Methods in Physics Research* **A273** (1988), 389–396.

Books

1. Student Solutions Manual for Knight’s Physics, 2nd edition. Pawan Kahol, Scott Nutter, Larry Smith (Pearson) 2007.
2. Instructor Solutions for Knight’s Physics, 2nd edition. Pawan Kahol, Scott Nutter, Larry Smith (Pearson) 2007.

Conference Proceedings

S. Nutter, T. Anderson, C. R. Bower, S. Coutu, J. Gennaro, M. Geske, D. Muller, J. Musser, N. H. Park, M. Schubnell, G. Tarle, S. Wakely, and A. Yagi. “The Cosmic Ray Electron Synchrotron Telescope (CREST)” Proc. 31st Int. Cosmic Ray Conf., Łódź, 2009.

L. Derome et al., (CREAM-III Collaboration) “Preliminary results of the CREAM-III Cherenkov Camera (CherCam)” Proc. 31st Int. Cosmic Ray Conf., Łódź, 2009.

J.H. Han et al. (CREAM Collaboration). “Performance in flight of the CREAM-III and CREAM-IV calorimeters” Proc. 31st Int. Cosmic Ray Conf., Łódź, 2009.

P. Maestro et al. (CREAM-II Collaboration). “Elemental energy spectra of cosmic rays measured by CREAM-II” Proc. 31st Int. Cosmic Ray Conf., Łódź, 2009.

E. S. Seo et al. (CREAM Collaboration). “High Energy Cosmic Ray Observations with CREAM” Proc. 31st Int. Cosmic Ray Conf., Łódź, 2009.

Y. S. Yoon et al. (CREAM-III Collaboration). “Preliminary Proton and Helium Spectra from the CREAM-III Flight” Proc. 31st Int. Cosmic Ray Conf., Łódź, 2009.

S. Swordy et al., (CREAM Collaboration). “High Energy Cosmic-ray Measurements with CREAM.” April 2007 Meeting of The American Physical Society, April 2007.

E. S. Seo et al., (CREAM Collaboration) “Cosmic Ray Energetics And Mass.” Proc. Int. Workshop on Cosmic-rays and High Energy Universe, Universal Academy Press (Tokyo), submitted, 2007

Scott Nutter, Charles Bower, Stephane Coutu, Dietrich Muller, James Musser, Michael Schubnell, Greg Tarle, Scott Wakely, Atshushi Yagi. “Synchrotron radiation from primary cosmic ray electrons: Monte Carlo studies of event topographies and potential backgrounds at balloon altitudes.” Proc. 30th Int. Cosmic Ray Conf., Merida, 2007

Michael Schubnell, Charles Bower, Atsushi Yagi, Stephane Coutu, Michael Duvernois, Dietrich Muller, James Musser, Richard Northrop, Scott Nutter, Gregory Tarle, Scott Wakely. “THE COSMIC RAY ELECTRON SYNCHROTRON TELESCOPE (CREST) EXPERIMENT.” Proc. 30th Int. Cosmic Ray Conf., Merida, 2007

G. Tarle, J. Ameel, R. Ball, C. Bower, S. Coutu, M. Gephard, D. Muller, J. Musser, S. Nutter, M. Schubnell, C. Smith, S. Wakely, A. Yagi “THE FLIGHT ELECTRONICS SYSTEM FOR THE COSMIC RAY ELECTRON SYNCHROTRON TELESCOPE (CREST) EXPERIMENT.” Proc. 30th Int. Cosmic Ray Conf., Merida, 2007

S.W. Nam et al., (CREAM Collaboration) “Performance of a Dual Layer Silicon Charge Detector during CREAM Balloon Flights.” IEEE TRANSACTIONS ON NUCLEAR SCIENCE, 54, 1743, 2007

E. S. Seo et al., (CREAM Collaboration) “Cosmic Ray Energetics And Mass (CREAM) Overview” Proc. 30th Int. Cosmic Ray Conf., Merida, 2007

H. S. Ahn et al., (CREAM Collaboration) “Elemental Spectra from the CREAM-I Flight.” Proc. 30th Int. Cosmic Ray Conf., Merida, 2007

M. H. Lee et al., (CREAM Collaboration) “The CREAM-III calorimeter.” Proc. 30th Int. Cosmic Ray Conf., Merida, 2007

Y. S. Yoon et al., (CREAM Collaboration) "H and He spectra from the 2004/05 CREAM-I flight." Proc. 30th Int. Cosmic Ray Conf., Merida, 2007

T. J. Brandt et al., (CREAM Collaboration) "Charge Identification in the CREAM Experiment." Proc. 30th Int. Cosmic Ray Conf., Merida, 2007

N. H. Park et al., (CREAM Collaboration) "Relative abundances of heavy ions measured by the CREAM Silicon Charge Detector" Proc. 30th Int. Cosmic Ray Conf., Merida, 2007

S. I. Mognet et al., (CREAM Collaboration) "GEANT4 Based Model of the CREAM Timing Charge Scintillation Detector." Proc. 30th Int. Cosmic Ray Conf., Merida, 2007

J. T. Childers et al., (CREAM Collaboration) "Timing charge and position analysis from the first CREAM flight." Proc. 30th Int. Cosmic Ray Conf., Merida, 2007

R. Zei et al. (CREAM Collaboration) "Preliminary measurements of carbon and oxygen energy spectra from the second flight of CREAM." Proc. 30th Int. Cosmic Ray Conf., Merida, 2007

P. Maestro et al. (CREAM Collaboration) "Energy cross-calibration from the first CREAM flight: transition radiation detector versus calorimeter." Proc. 30th Int. Cosmic Ray Conf., Merida, 2007

S. P. Wakely et al. (CREAM-1 Collaboration), "Measurements of High-Energy Heavy Nuclei with the CREAM-I TRD." Proc. 30th Int. Cosmic Ray Conf., Merida, 2007

M.H. Lee et al. (CREAM Collaboration), "The CREAM Calorimeter: Performance In Tests And Flights." Proceedings of the 12th International Conference on Calorimetry in High Energy Physics, Chicago, IL (5-9 June 2006), ed. S.R. Magill and R. Yoshida, American Institute of Physics Conference Proceeding, 867, 167-174, 2006.

S. Coutu et al. (CREAM Collaboration), "Design and Performance in the First Flight of the Transition Radiation Detector and Charge Detector of the CREAM Balloon Instrument," 10th Pisa Meeting on Advanced Detectors, Elba, Italy, submitted, May, 2006.

E. S. Seo, et al. (CREAM Collaboration), "Cosmic Ray Energetics And Mass: First Flight and Beyond." Proc. Rencontres de Moriond, Very High Energy Phenomena in the Universe. La Thulie, Italy, 2005.

E. S. Seo et al. (CREAM Collaboration), "New Observations with CREAM," Proceedings of the 29th International Cosmic Ray Conference, Pune, 10, 185-198 (2005).

With S. Coutu et al. (CREAM Collaboration), "Performance of the transition radiation detector and the timing charge detector in the first flight of the CREAM instrument," Proceedings of the 29th International Cosmic Ray Conference Pune, India 3, 393-396 (2005).

With N.H. Park et al. (CREAM Collaboration), "The first flight measurement with the CREAM Silicon Charge Detector," Proceedings of the 29th International Cosmic Ray Conference Pune, India 3, 341-344 (2005).

With M.H. Lee et al. (CREAM Collaboration), "Performance of the CREAM calorimeter module during its first flight of 42 days," Proceedings of the 29th International Cosmic Ray Conference Pune, India 3, 417-420 (2005).

With S.Y. Zinn et al. (CREAM Collaboration), "The data acquisition software system of the 2004/2005 CREAM experiment," Proceedings of the 29th International Cosmic Ray Conference Pune, India 3, 437-440 (2005).

With J. Yang et al. (CREAM Collaboration), "Performance of the CREAM silicon charge detector during its first flight," Proceedings of the 29th International Cosmic Ray Conference Pune, India 3, 345-348 (2005).

With Y.S. Yoon et al. (CREAM Collaboration), "Flight operations during the first CREAM balloon flight," Proceedings of the 29th International Cosmic Ray Conference Pune, India 3, 429-432 (2005).

With H.S. Ahn et al. (CREAM Collaboration), "CREAM flight data processing," Proceedings of the 29th International Cosmic Ray Conference Pune, India 3, 389-392 (2005).

With P.S. Marrocchesi et al. (CREAM Collaboration), "Reconstruction of showers in the calorimeter during the first flight of the CREAM balloon experiment," Proceedings of the 29th International Cosmic Ray Conference Pune, India 8, 109-112 (2005).

With E.S. Seo et al. (CREAM Collaboration), "The record breaking 42-day balloon flight of CREAM," Proceedings of the 29th International Cosmic Ray Conference Pune, India 3, 101-104 (2005).

With A. Yagi et al. (CREST Collaboration), "CREST: a cosmic-ray electron synchrotron telescope to measure TeV electrons," Proceedings of the 29th International Cosmic Ray Conference Pune, India (2005).

"The Cosmic Ray Energetics and Mass (CREAM) Experiment Timing Charge Detector." J. J. Beatty et al. (CREAM collaboration), Proceedings of SPIE Vol. 4858: Particle Astrophysics Instrumentation, 4858, 248, 2003.

"Measurements of the Cosmic-Ray Antiproton Energy Spectrum with HEAT-pbar." A. S. Beach, J. J. Beatty, A. Bhattacharyya, C. Bower, S. Coutu, M. A. DuVernois, A. Labrador, S. P. McKee, S. A. Minnick, D. Muller, J. Musser, S. Nutter, M. Schubnell, S. Swordy, G. Tarle, and A. Tomasch. Proceedings of the 28th International Cosmic Ray Conference pp. 1789-1791, Tsukuba, Japan, August 2003.

"Energy Spectra and Charge Ratios of Atmospheric Muons." S. A. Minnick, A. S. Beach, J. J. Beatty, A. Bhattacharyya, C. Bower, S. Coutu, M. A. DuVernois, A. Labrador, S. P. McKee, D. Muller, J. Musser, S. Nutter, M. Schubnell, S. Swordy, G. Tarle, and A. Tomasch. Proceedings of the 28th International Cosmic Ray Conference pp. 1191-1194, Tsukuba, Japan, August 2003.

"CREAM for High Energy Composition Measurements." E. S. Seo, H. S. Ahn, P. S. Allison, J. J. Beatty, M. J. Choi, N. B. Conklin, S. Coutu, M. A. Duvernois, O. Ganel, K. C. Kim, M. H. Lee, L. Liu, L. Lutz, P. Maestro, P. S. Marrocchesi, S. Minnick, K. W. Min, S. I. Mognet, S. Nutter, H. Park, I. H. Park, E. Schindhelm, C. Song, S. Swordy, J. Wu, and J. Yang. Proceedings of the 28th International Cosmic Ray Conference pp. 2101-2104, Tsukuba, Japan, August 2003.

"Design and Construction of the Silicon Charge Detector for the CREAM Mission." I.H. Park et al., Proc. 28th Int. Cosmic Ray Conf., (Tsukuba), 4, 2105, 2003.

"Antimatter Measurements with HEAT and the Dark Matter Connection," S. Coutu et al. (HEAT Collaboration), Proc. of the IVth International Workshop on the Identification of Dark Matter, York, UK (2002), World Scientific, N. Spooner & V. Kudryavtsev eds., 483-488 (2003).

"Antimatter Measurements with the HEAT Balloon Experiment," S. Coutu *et al.* (HEAT Collaboration), Proceedings of the XIVth Rencontres de Blois, Matter-Antimatter Asymmetry, Blois, France (2002).

"Antimatter Measurements with HEAT and the Dark Matter Connection," S. Coutu *et al.* (HEAT Collaboration), Proceedings of the IVth International Workshop on the Identification of Dark Matter, York, United Kingdom (2002).

"Cosmic Ray Energetics And Mass (CREAM): Calibrating a Cosmic Ray Calorimeter." O. Ganel, E. S. Seo, H. S. Ahn, R. Alford, J. J. Beatty, M. J. Choi, S. Coutu, M. A. Duvernois, H. J. Kim, K. C. Kim, S. K. Kim, M. H. Lee, L. Liu, L. Lutz, A. Malinine, E. Schindhlem, S. Minnick, S. Nutter, I. H. Park, S. Swordy, J. Z. Wang, and J. Wu. Proceedings of the 10th International Conference on Calorimetry in High Energy Physics, Pasadena, CA (25 March 2002) - 133-138, 2002.

"The Cosmic Ray Energetics and Mass (CREAM) Experiment Timing Charge Detector," J. J. Beatty, H. S. Ahn, P. S. Allison, M. J. Choi, N. Conklin, S. Coutu, M. A. DuVernois, O. Ganel, S. Jaminion, M.H. Lee, L. Lutz, P. S. Marrocchesi, S. Minnick, S. I. Mognet, K. Min, S. Nutter, H. Park, I.H. Park, K. Petska, E. Schindhelm, E.S. Seo, S. Swordy, J. Wu, and J. Yang, Astronomical Telescopes and Instrumentation, Ed. by J. R. P. Angel and J. B. Breckinridge, Proc. SPIE International Symposium on Optical Science, Engineering, and Instrumentation, Vol. 4858: Particle Astrophysics Instrumentation, 248, 2003.

"The cosmic-ray antiproton to proton ratio from 4.5 to 50 GV." J. Musser, A. S. Beach, J. J. Beatty, A. Bhattacharyya, C. Bower, S. Coutu, M. A. DuVernois, A. Labrador, S. P. McKee, S. A. Minnick, D. Muller, S. Nutter, M. Schubnell, S. Swordy, G. Tarle, and A. Tomasch. Proceedings of the 27th International Cosmic Ray Conference OG.1.01, Hamburg, August 2001.

"Positron measurements with the HEAT-pbar instrument." S. Coutu, A. S. Beach, J. J. Beatty, A. Bhattacharyya, C. R. Bower, M. A. DuVernois, A. W. Labrador, S. P. McKee, S. A. Minnick, D. Muller, J. A. Musser, S.L. Nutter, M. Schubnell, S. P. Swordy, G. Tarle, and A. D. Tomasch. Proceedings of the 27th International Cosmic Ray Conference OG.1.01, Hamburg, August 2001.

“Detection of cosmic-ray antiprotons with the HEAT-pbar instrument.” S. L. Nutter, A. S. Beach, J. J. Beatty, A. Bhattacharyya, C. R. Bower, S. Coutu, M. A. DuVernois, A. W. Labrador, S. P. McKee, S. A. Minnick, D. Muller, J. A. Musser, M. Schubnell, S. P. Swordy, G. Tarle, and A. D. Tomasch. Proceedings of the 27th International Cosmic Ray Conference OG.1.01, Hamburg, August 2001.

“Splash and reentrant albedo observations of electrons and positrons at a 4.2 GV vertical magnetic cutoff.” M. A. DuVernois, A. S. Beach, J. J. Beatty, A. Bhattacharyya, C. Bower, S. Coutu, A. W. Labrador, S. P. McKee, S. Minnick, D. Muller, J. Musser, S. Nutter, M. Schubnell, S. Swordy, G. Tarle, and A. Tomasch. Proceedings of the 27th International Cosmic Ray Conference SH.3.06, Hamburg, August 2001.

“Absolute rigidity spectra of protons and helium from 16 to 250 GV.” M. A. DuVernois, J. J. Beatty, C. Bower, S. Coutu, S. P. McKee, D. Muller, J. Musser, S. Nutter, S. Swordy, G. Tarle, and A. Tomasch. Proceedings of the 27th International Cosmic Ray Conference OG.1.01, Hamburg, August 2001.

“Cosmic Ray Energetics And Mass (CREAM): Study of backscatter effect” Y. J. Han, H. S. Ahn, O. Ganel, K. C. Kim, M. H. Lee, E. S. Seo, J. Z. Wang, J. Wu, H. J. Kim, S. K. Kim, I. H. Park, S. Beach, J. J. Beatty, S. Coutu, S. Nutter, S. Minnick, M. A. Duvernois, and S. Swordy. Proceedings of the 27th International Cosmic Ray Conference OG.1.05, Hamburg, August 2001.

“Cosmic ray energetics and mass: Expected performance.” H. S. Ahn, S. Beach, J. J. Beatty, S. Coutu, M. A. DuVernois, O. Ganel, Y. J. Han, H. J. Kim, K. C. Kim, S. K. Kim, M. H. Lee, S. Minnick, S. Nutter, I. H. Park, E. S. Seo, S. Swordy, J. Z. Wang, and J. Wu. Proceedings of the 27th International Cosmic Ray Conference OG.1.05, Hamburg, August 2001.

“Cosmic ray energetics and mass: configuration and progress on construction and testing.” O. Ganel, E. S. Seo, H. S. Ahn, R. Alford, S. Beach, J. J. Beatty, M. J. Choi, S. Coutu, M. A. Duvernois, Y. J. Han, H. J. Kim, K. C. Kim, S. K. Kim, M. H. Lee, L. Lutz, S. A. Minnick, S. Nutter, I. H. Park, S. Swordy, J. Z. Wang, H. S. Won, and J. Wu. Proceedings of the 27th International Cosmic Ray Conference OG.1.05, Hamburg, August 2001.

“Electron and Positron energy spectra: HEAT magnet spectrometer results.” M.A. DuVernois, S.W. Barwick, J.J. Beatty, A. Bhattacharyya, C.R. Bower, S. Coutu, S. McKee, D. Müller, J.A. Musser, S.L. Nutter, S.P. Swordy, G. Tarlé, and A.D. Tomasch. Proceedings of the 26th International Cosmic Ray Conference OG.1.1.14, Salt Lake City, August 1999.

“The HEAT-pbar Cosmic Ray Antiproton Experiment.” M.A. DuVernois, S.W. Barwick, J.J. Beatty, A. Bhattacharyya, C.R. Bower, S. Coutu, S. McKee, D. Müller, J.A. Musser, S.L. Nutter, S.P. Swordy, G. Tarlé, and A.D. Tomasch. Proceedings of the 26th International Cosmic Ray Conference OG.44.1.04, Salt Lake City, August 1999.

“Particle Identification with the HEAT dE/dx vs. Rigidity Detector System.” M.A. DuVernois, S.W. Barwick, J.J. Beatty, A. Bhattacharyya, C.R. Bower, S. Coutu, S. McKee, D. Müller, J.A. Musser, S.L. Nutter, S.P. Swordy, G. Tarlé, and A.D. Tomasch. Proceedings of the 26th International Cosmic Ray Conference OG.1.1.26, Salt Lake City, August 1999.

“Air Shower Muons and the Atmospheric Neutrino Puzzle.” M.A. DuVernois, S.W. Barwick, J.J. Beatty, A. Bhattacharyya, C.R. Bower, S. Coutu, S. McKee, D. Müller, J.A. Musser, S.L. Nutter, S.P. Swordy, G. Tarlé, and A.D. Tomasch. Proceedings of the 26th International Cosmic Ray Conference HE 3.2.01, Salt Lake City, August 1999.

“Cosmic Ray Energetics And Mass (CREAM): A Detector for Cosmic Rays near the Knee.” J.J. Beatty et al., Proc. 26th Int. Cosmic Ray Conf., (Salt Lake City), 5, 61-64, 1999.

“An ULDB Mission to Study High Energy Cosmic Rays.” E. S. Seo et al., Proc. 26th Int. Cosmic Ray Conf., (Salt Lake City), 3, 207-210, 1999.

“Best Case Practices of Technology at Eastern New Mexico University.” Calvin DeWitt, Scott Nutter, Mary Ayala, and Debra Hall. Proceedings of the Mid-South Instructional Technology Conference, Middle Tennessee State University, Murfreesboro, Tennessee, April 6-8, 1997.

“Examples of Technology Use in Teaching and Learning Applications at Eastern New Mexico University.” Scott Nutter, Calvin DeWitt, and Ed Kinley. Proceedings of the American Association of Higher Education 2nd Annual Teaching and Learning Technology Roundtable Summer Institute, Scottsdale, Arizona, July 12-16, 1996.

“Energy Spectra of Electrons and Positrons from 5 to 100 GeV” (D. Muller, S.W. Barwick, J. Beatty, A. Battacharyya, C.R. Bower, C. J. Chaput, S. Coutu, G. de Nolfo, J. Knapp, D.M. Lowder, S. McKee, J. A. Musser, S. L. Nutter, E. Schneider, S. P. Swordy, G. Tarle, A.D. Tomasch, and E. Torbet) *Proceedings of the 25th International Cosmic Ray Conference, Durban, South Africa* (1997).

“Secondary and Re-Entrant Albedo Electrons in the Atmosphere” (G.A. de Nolfo, S.W. Barwick, J. Beatty, A. Battacharyya, C.R. Bower, C. J. Chaput, S. Coutu, J. Knapp, D.M. Lowder, S. McKee, D. Muller, J. A. Musser, S. L. Nutter, E. Schneider, S. P. Swordy, G. Tarle, A.D. Tomasch, and E. Torbet) *Proceedings of the 25th International Cosmic Ray Conference, Durban, South Africa* (1997).

“Cosmic Ray Positrons: Are There Primary Sources?” (S. Coutu, S.W. Barwick, J. Beatty, A. Battacharyya, C.R. Bower, C. J. Chaput, G. de Nolfo, J. Knapp, D.M. Lowder, S. McKee, D. Muller, J. A. Musser, S. L. Nutter, E. Schneider, S. P. Swordy, G. Tarle, A.D. Tomasch, and E. Torbet) *Proceedings of the 25th International Cosmic Ray Conference, Durban, South Africa* (1997).

“Relative Abundances of Positive and Negative Muons in the Atmosphere” (G. Tarle, S.W. Barwick, J. Beatty, A. Battacharyya, C.R. Bower, C. J. Chaput, S. Coutu, G. de Nolfo, J. Knapp, D.M. Lowder, S. McKee, D. Muller, J. A. Musser, S. L. Nutter, E. Schneider, S. P. Swordy, A.D. Tomasch, and E. Torbet) *Proceedings of the 25th International Cosmic Ray Conference, Durban, South Africa* (1997).

“Measurements of the Cosmic Ray Positron Fraction with the HEAT Spectrometer” (J. A. Musser, S.W. Barwick, J. Beatty, A. Battacharyya, C.R. Bower, C. J. Chaput, S. Coutu, G. de Nolfo, J. Knapp, D.M. Lowder, S. McKee, D. Muller, S. L. Nutter, E. Schneider, S. P. Swordy, G. Tarle, A.D. Tomasch, and E. Torbet) *Proceedings of the 25th International Cosmic Ray Conference, Durban, South Africa* (1997).

“A New Measurement of the Positron Fraction at High Energies” (G. Tarle, S.W. Barwick, J. Beatty, C.R. Bower, C. Chaput, G. de Nolfo, D. Ficenc, J. Knapp, D.M. Lowder, S. McKee, D. Muller, S. L. Nutter, E. Schneider, S. P. Swordy, K.K. Tang, A.D. Tomasch, and E. Torbet) *Proceedings of the 24th International Cosmic Ray Conference, Rome, Italy* (1995).

“Monte Carlo Calculations of Atmospheric Electrons Compared with Data from HEAT” (G. de Nolfo, S.W. Barwick, J. Beatty, C.R. Bower, C. Chaput, D. Ficenc, J. Knapp, D.M. Lowder, S. McKee, D. Muller, S. L. Nutter, E. Schneider, S. P. Swordy, K.K. Tang, G. Tarle, A.D. Tomasch, and E. Torbet) *Proceedings of the 24th International Cosmic Ray Conference, Rome, Italy* (1995).

“Flight Performance and Electron-Hadron Separation of the HEAT- e^\pm Experiment” (E. Torbet, S.W. Barwick, J. Beatty, C.R. Bower, C. Chaput, G. de Nolfo, D. Ficenc, J. Knapp, D.M. Lowder, S. McKee, D. Muller, S. L. Nutter, E. Schneider, S. P. Swordy, K.K. Tang, G. Tarle, and A.D. Tomasch) *Proceedings of the 24th International Cosmic Ray Conference, Rome, Italy* (1995).

“Flight Performance of the HEAT Rigidity Spectrometer” (A.D. Tomasch, S.W. Barwick, J. Beatty, C.R. Bower, C. Chaput, G. de Nolfo, D. Ficenc, J. Knapp, D.M. Lowder, S. McKee, D. Muller, S. L. Nutter, E. Schneider, S. P. Swordy, K.K. Tang, G. Tarle, and E. Torbet) *Proceedings of the 24th International Cosmic Ray Conference, Rome, Italy* (1995).

“The Relative Fluxes of Protons and Helium Nuclei up to 100 GeV/n” (S. P. Swordy, S.W. Barwick, J. Beatty, C.R. Bower, C. Chaput, G. de Nolfo, D. Ficenc, J. Knapp, D.M. Lowder, S. McKee, D. Muller, S. L. Nutter, E. Schneider, K.K. Tang, G. Tarle, A.D. Tomasch, and E. Torbet) *Proceedings of the 24th International Cosmic Ray Conference, Rome, Italy* (1995).

“Measurement of the μ^+/μ^- Ratio as a Function of Depth in the Atmosphere” (E. Schneider, S.W. Barwick, J. Beatty, C.R. Bower, C. Chaput, G. de Nolfo, D. Ficenc, J. Knapp, D.M. Lowder, S. McKee, D. Muller, S. L. Nutter, S. P. Swordy, K.K. Tang, G. Tarle, A.D. Tomasch, and E. Torbet) *Proceedings of the 24th International Cosmic Ray Conference, Rome, Italy* (1995).

“The Cosmic Positron Fraction: Implications of a New Measurement” (D. Muller, S.W. Barwick, J. Beatty, C.R. Bower, C. Chaput, G. de Nolfo, D. Ficenc, J. Knapp, D.M. Lowder, S. McKee, S. L. Nutter, E. Schneider, S. P. Swordy, K.K. Tang, G. Tarle, A.D. Tomasch, and E. Torbet) *Proceedings of the 24th International Cosmic Ray Conference, Rome, Italy* (1995).

“The Atmospheric Background of Protons and Deuterons Measured at 5 g/cm²” (J.P. Wefel, S.P. Ahlen, J.J. Beatty, C.R. Bower, J. Clem, D.J. Ficenc, N. Greene, T.G. Guzik, R.M. Heinz, M. Lijowski, D. Loomba, S. McKee, J.W. Mitchell, S.L. Mufson, J. Musser, S. Nutter, G.M. Spiczak, G. Tarle, and A. Tomasch) *Proceedings of the 23rd International Cosmic Ray Conference, Rome, Italy* (1995).

- “Measurements of Cosmic Ray Helium During the 1991 Solar Maximum” (J.P. Wefel, S.P. Ahlen, J.J. Beatty, C.R. Bower, J. Clem, D.J. Ficenec, N. Greene, T.G. Guzik, R.M. Heinz, M. Lijowski, D. Loomba, S. McKee, J.W. Mitchell, S.L. Mufson, J. Musser, S. Nutter, G.M. Spiczak, G. Tarle, and A. Tomasch) *Proceedings of the 23rd International Cosmic Ray Conference, Rome, Italy* (1995).
- “Multiple Muon Measurements with MACRO” (The MACRO Collaboration) *Proceedings of the 8th International Symposium on Very High Energy Cosmic Ray Interactions* (1994).
- “Coincident Observations of Air Cerenkov Light by a Surface Array with Deep Underground Muon Bundles” (The GRACE and MACRO Collaboration), *Proceedings of the 23rd International Cosmic Ray Conference, Calgary, Canada*, **4** 704 (1993).
- “Constraints on the PeV Cosmic Ray Composition and Interaction Models from Coincident EAS-TOP and MACRO Data” (The EAS-TOP and MACRO Collaborations), *Proceedings of the 23rd International Cosmic Ray Conference, Calgary, Canada*, **2** 89 (1993).
- “The Muon Vertical Intensity Measured with the MACRO Detector” (The MACRO Collaboration), *Proceedings of the 23rd International Cosmic Ray Conference, Calgary, Canada*, **4** 391 (1993).
- “The Measurement of the Muon Pair Separation Distribution with the MACRO Detector” (The MACRO Collaboration), *Proceedings of the 23rd International Cosmic Ray Conference, Calgary, Canada*, **2** 93 (1993).
- “Composition of the Ultra High Energy Primary Cosmic Rays as Measured with the Full-Sized MACRO Detector” (The MACRO Collaboration), *Proceedings of the 23rd International Cosmic Ray Conference, Calgary, Canada*, **2** 97 (1993).
- “A Sensitive Search for Neutrino Bursts from Stellar Gravitational Collapse with the MACRO Detector” (The MACRO Collaboration), *Proceedings of the 23rd International Cosmic Ray Conference, Calgary, Canada*, **4** 472 (1993).
- “Search for Slow-Moving Magnetic Monopoles with the MACRO Detector” (MACRO Collaboration), *Proceedings of the 23rd International Cosmic Ray Conference, Calgary, Canada*, **4** 593 (1993).
- “Muon Astronomy and Search for Sidereal Anisotropies” (The MACRO Collaboration), *Proceedings of the 23rd International Cosmic Ray Conference, Calgary, Canada*, **4** 450 (1993).
- “The Cosmic Ray $^3\text{He}/^4\text{He}$ Ratio from 100 MeV/amu to 1600 MeV/amu” (D.J. Ficenec, S.P. Ahlen, J.J. Beatty, C.R. Bower, J. Clem, T.G. Guzik, R.M. Heinz, M. Lijowski, S. McKee, J.W. Mitchell, S.L. Mufson, J. Musser, S. Nutter, J.J. Pitts, G.M. Spiczak, G. Tarle, S. Tobias, A. Tomasch, J.P. Wefel and B. Zhou) *Proceedings of the 23rd International Cosmic Ray Conference, Calgary, Canada*, **1** 515 (1993).
- “Modulation Effects of the 4-Sept-1989 Forbush Decrease on Cosmic Ray Helium 1200-2000 MV” (S.P. Ahlen, J.J. Beatty, C.R. Bower, J.M. Clem, D.J. Ficenec, T.G. Guzik, R.M. Heinz, M. Lijowski, S. McKee, J.W. Mitchell, S.L. Mufson, J. Musser, S. Nutter, J. Pitts, G.M. Spiczak, G. Tarle, S. Tobias, A. Tomasch, J.P. Wefel, and B. Zhou), *Proceedings of the 23rd International Cosmic Ray Conference, Calgary, Canada*, **3** 707 (1993).
- “HEAT e^\pm : Accelerator Calibration Results” (E. Torbet, S.W. Barwick, J. Beatty, C.R. Bower, G. de Nolfo, D. Ellithorpe, D. Ficenec, D. Levin, D.M. Lowder, J. Lynch, S. McKee, T. Miller, D. Muller, J.A. Musser, S. Nutter, P.B. Price, A. Richards, E. Schneider, S. Swordy, K.K. Tang, G. Tarle, and A.D. Tomasch), *Proceedings of the 23rd International Cosmic Ray Conference, Calgary, Canada*, **2** 496 (1993).
- “Spatial Resolution Tests Using a Prototype Cosmic-Ray Hodoscope” (S.W. Barwick, J.J. Beatty, C.R. Bower, G. de Nolfo, D. Ellithorpe, D.J. Ficenec, D. Levin, D.M. Lowder, J. Lynch, S. McKee, T. Miller, D. Muller, J. Musser, S. Nutter, P.B. Price, A. Richards, E. Schneider, S. Swordy, J.K. Tang, G. Tarle, A. Tomasch, and E. Torbet), *Proceedings of the 23rd International Cosmic Ray Conference, Calgary, Canada*, **2** 492 (1993).
- “Neutrino Physics in MACRO at Gran Sasso” (MACRO Collaboration), *Nucl. Phys. B (Proc. Suppl.)* **31**, 437 (1993).
- “Muon Measurements with MACRO” (The MACRO Collaboration), *Proceedings of VII International Symposium on Very High Energy Cosmic Ray Interactions, (Editor: Lawrence Jones) Ann Arbor, Michigan, AIP* **276** 142 (1992).

- “A Measurement of the $^3\text{He}/^4\text{He}$ Ratio in the Cosmic Radiation from 100 MeV/amu to 500 MeV/amu” (The SMILI Collaboration), *Proceedings of the 22nd International Cosmic Ray Conference, Dublin, Ireland*, **1** 607 (1991).
- “A Measurement of the $^3\text{He}/^4\text{He}$ Ratio in the Cosmic Radiation from 500 MeV/amu to 1100 MeV/amu” (The SMILI Collaboration), *Proceedings of the 22nd International Cosmic Ray Conference, Dublin, Ireland*, **1** 611 (1991).
- “Interpretation of the $^3\text{He}/^4\text{He}$ Ratio in the Cosmic Radiation from 100 MeV/amu to 1100 MeV/amu” (The SMILI Collaboration), *Proceedings of the 22nd International Cosmic Ray Conference, Dublin, Ireland*, **1** 615 (1991).
- “SMILI (Superconducting Magnet Instrument for Light Isotopes) A Balloon Borne Magnet Spectrometer” (The SMILI Collaboration), *Proceedings of the 22nd International Cosmic Ray Conference, Dublin, Ireland*, **2** 563 (1991).
- “A Search for Sidereal Anisotropies with Underground Muons and an All-Sky Survey for Muon Point Sources with the MACRO Detector” (The MACRO Collaboration), *Proceedings of the 22nd International Cosmic Ray Conference, Dublin, Ireland*, **4** 595 (1991).
- “Search for Astrophysical Point Sources of Muons with the MACRO Detector” (The MACRO Collaboration), *Proceedings of the 22nd International Cosmic Ray Conference, Dublin, Ireland*, **4** 591 (1991).
- “Arrival Time Distributions of Very High Energy Cosmic Ray Muons in MACRO” (The MACRO Collaboration), *Proceedings of the 22nd International Cosmic Ray Conference, Dublin, Ireland*, **4** 571 (1991).
- “Measurement of the Muon Decoherence Function with the MACRO Experiment at Gran Sasso” (The MACRO Collaboration), *Proceedings of the 22nd International Cosmic Ray Conference, Dublin, Ireland*, **4** 567 (1991).
- “Study of the Primary Cosmic Ray Composition with the MACRO Experiment at Gran Sasso” (The MACRO Collaboration), *Proceedings of the 22nd International Cosmic Ray Conference, Dublin, Ireland*, **2** 1 (1991).
- “A Search for Prompt Muons using the MACRO Detector at Gran Sasso” (The MACRO Collaboration), *Proceedings of the 22nd International Cosmic Ray Conference, Dublin, Ireland*, **4** 169 (1991).
- “Search for Nuclearites with the MACRO Detector” (The MACRO Collaboration), *Proceedings of the 22nd International Cosmic Ray Conference, Dublin, Ireland*, **4** 730 (1991).
- “Stellar Gravitational Collapse Detection by MACRO: Characteristics and Results” (The MACRO Collaboration), *Proceedings of the 22nd International Cosmic Ray Conference, Dublin, Ireland*, **4** 698 (1991).
- “Measurements of Electromagnetic and TeV Muon Components of Extensive Air Showers by EAS-TOP and MACRO” (The MACRO and EAS-TOP Collaborations), *Proceedings of the 22nd International Cosmic Ray Conference, Dublin, Ireland*, **4** 563 (1991).
- “Study of High Energy Cosmic Rays through the Measurement of the Electromagnetic and TeV Muon Components of Extensive Air Showers by EAS-TOP and MACRO” (The MACRO and EAS-TOP Collaborations), *Proceedings of the 22nd International Cosmic Ray Conference, Dublin, Ireland*, **2** 61 (1991).
- “Current Progress of the SMILI Light Isotope Spectrometer Program” (The SMILI Collaboration), *Proceedings of the 21st International Cosmic Ray Conference* **3** 35 (1990).

Other Publications

1. “Balloons over Antarctica.” Department of Physics & Geology Departmental Newsletter, Fall 2006.
2. “A Trip to Antarctica.” NKU Arts & Sciences Vista Newsletter, Fall 2006.
3. Antarctic blog for 2005 and 2008 trips. <http://antarctic-scott.blogspot.com> 2005-2008.
4. “Christian Rojas - A Life Cut Much Too Short.” Scott Nutter. Obituary for a student published in the *Society of Physics Students Newsletter*, Vol. XXIX, Issue 5 (Jan/Feb 1997). Published by the American Physical Society.

Presentations

“Indirect Dark Matter Search: Measurements of Cosmic-Ray Positrons, Electrons & Antiprotons” Colloquium, Miami University, 14 October 2009.

“Indirect Dark Matter Search: Measurements of Cosmic-Ray Positrons, Electrons & Antiprotons” Seminar, Northern Kentucky University, 7 October 2009.

“The Cosmic Ray Electron Synchrotron Telescope (CREST)” 31st International Cosmic Ray Conference, Łódź, Poland, 2009.

“CREST - A Balloon-borne Instrument to Measure Cosmic-ray Electrons Above TeV Energies.” American Physical Society April Meeting (Denver, CO) May 2009.

“NKU CREST Simulations Status” CREST Simulations Review meeting, Indiana University, February 2009.

“CREST Simulations: New & Old” CREST collaboration meeting, University of Michigan, June 2009.

“CREST Spring 2009 flight crystal to crystal timing observations” CREST collaboration meeting, University of Chicago, September 2009.

“Comments on CREST crystal background rates” CREST collaboration meeting, University of Chicago, September 2009.

“CREST Simulations: Tidying up” CREST collaboration meeting, University of Chicago, September 2009.

“CREST Recovery document” CREST collaboration meeting, Indiana University, December 2009.

“Sabbatical summary” given to Northern Kentucky University Board of Regents, 14 January, 2009.

“The Art of Scientific Ballooning.” Friends of the Observatory (FOTO) invited speaker (Cincinnati Observatory), Cincinnati, OH, 16 December 2009.

“The Best Journey in the World: Antarctic High Energy Physics, Biological Diversity and Dessert!” NKU Biology Department Seminar co-presented with Hazel Barton. December 12, 2008.

“Veto status” presented at CREST collaboration meeting at Northern Kentucky University, December 6-7, 2008.

“CREST synchrotron generator status” presented at CREST collaboration meeting at Northern Kentucky University, December 6-7, 2008.

“Bremsstrahlung and CREST: A “Head’s Up”” presented at CREST collaboration meeting at Northern Kentucky University, December 6-7, 2008.

“Analysis Possibility: extracting Compton scatters through the timing distribution” presented at CREST collaboration meeting at Northern Kentucky University, December 6-7, 2008.

“Cosmic Rays: An introductory class in one evening.” Friends of the Observatory invited speaker (Cincinnati Observatory), Cincinnati, OH, October 15, 2008.

“Using the Earth’s Magnetic Field to Detect Cosmic Ray Electrons.” Kentucky Academy of Science Annual Meeting, November 2008.

“Sabbatical Brew: Planes, Balloons, Penguins, and Cosmic Rays.” Faculty Brown Bag presentation at NKU. September 10, 2008.

“CREST: The Cosmic Ray Electron Synchrotron Telescope” colloquium presented at the University of Maryland Department of Physics, April 28, 2008.

“CREST: The Cosmic Ray Electron Synchrotron Telescope” colloquium presented at the University of Cincinnati Department of Physics, April 17, 2008.

“CREST: The Cosmic Ray Electron Synchrotron Telescope” colloquium presented at Northern Kentucky University Department of Physics & Geology, April 15, 2008.

"Antarctic recovery considerations in instrument design" presented at CREST collaboration meeting at Indiana University, March 12, 2008.

"More CREAM-I MC Results: Instrument interactions." Presented CREAM collaboration by phone from Antarctica February 7, 2008.

"Synchrotron radiation from primary cosmic ray electrons: Monte Carlo studies of event topologies and potential backgrounds at balloon altitudes" Poster session at the International Cosmic Ray Conference, Merida (June 2007).

"CREAM-I GEANT4 MC" presented at the CREAM collaboration meeting at the University of Maryland, June 14, 2007.

"CREST veto overview" presented at CREST collaboration meeting at Indiana University, March 30, 2007.

"Particle Astrophysics@NKU" presented at Northern Kentucky University Department of Physics & Geology seminar, March 28, 2007.

"CREST Event Generator and Instrument Monte Carlo" CREST collaboration meeting, University of Michigan, December 2, 2006.

"CREST Veto Fiber Readout Prototype Characterization" CREST collaboration phone conference call, October 2006.

"Astrophysics in Antarctica: Cosmic rays and the art of scientific ballooning on the Ice." Friends of the Observatory invited speaker (Cincinnati Observatory), Cincinnati, OH, October 5, 2006.

"CREST Detector GEANT4 Monte Carlo" CREST collaboration meeting, Northern Kentucky University, August 19, 2006.

"Atmospheric showers GEANT4 Simulation" CREST collaboration meeting, Northern Kentucky University, August 19, 2006.

"Searching for high energy cosmic ray electrons using the Earth's magnetic field" April APS meeting, Dallas, TX April 24, 2006.

"A Traveling Physics Demonstration Show for Northern Kentucky" April APS meeting, Dallas, TX April 22, 2006.

"High Adventure in Antarctica" Faculty Brown Bag, Northern Kentucky University, March 15, 2006.

"Astrophysics in Antarctica: Cosmic rays and the art of scientific ballooning on the Ice" Northern Kentucky University Sigma Xi meeting, February, 2006.

"Photonic component of atmospheric showers a la GEANT4" CREST collaboration meeting, Chicago IL, Jan 14, 2006.

"Searching for high energy cosmic ray electrons using the Earth's magnetic field." Kentucky Academy of Science Annual Meeting, November 2005.

"GEANT4 simulation of atmospheric X-ray background at balloon altitudes: Progress Report." Presented at the CREST Collaboration meeting, Indiana University, Bloomington, Indiana, January 22, 2005.

"GEANT4 simulation of atmospheric X-ray background at balloon altitudes." Presented at the CREST collaboration meeting, University of Chicago, June 24, 2004.

"Astroparticle Physics at Northern Kentucky University." Presented at Kentucky Space Grant/NASA EPSCoR Conference, Lexington, Kentucky, May, 2004.

"The antimatter abundance ratios in the cosmic rays from 5 to 50 GeV." Presented at the Ohio Section of the American Physical Society meeting, Athens, Ohio, April 2004.

"Cosmic Rays: An Alternative Eye on the Sky." Presented at Cincinnati Observatory, Cincinnati, Ohio, January, 2004.

"From There to Here." Talk given at the University of Minnesota to Research Experience for Undergraduates (REU) students about a career as a professor at a four year school, July, 2003.

"Progress and Status of the HEAT Instrument Paper." Presentation at HEAT Collaboration meeting, Ann Arbor, MI, February, 2003.

"Balloons, cosmic rays, antiprotons, and Antarctica." Talk at Northern Kentucky University Sigma Xi meeting, March 6, 2002.

"The HEAT Cosmic Ray Antiproton Detector." Talk at Miami University Department of Physics, February 2002.

"Detection of cosmic-ray antiprotons with the HEAT-pbar instrument." Poster presentation at the 27th International Cosmic Ray Conference, Hamburg, August 2001.

"HEAT PBAR Analysis" at the HEAT--pbar collaboration at The University of Michigan, Ann Arbor, Michigan, May 21-22, 2001.

"The HEAT Cosmic Ray Antiproton Detector." Talk at Wittenberg University Department of Physics, February 2001.

"CREAM TCD Progress Report" at the CREAM collaboration meeting at the University of Maryland, February 2-3, 2001.

"The HEAT Cosmic Ray Antiproton Experiment." Talk at Pennsylvania State University Mont-Alto campus, January 2001.

"Cosmic Rays: High Energy Mysteries." Talk at Humboldt State University Department of Physics, December 2000.

"PSU HEAT Analysis Results" at the HEAT-pbar collaboration at Indiana University, Bloomington, Indiana, September 16, 2000.

"Current status of the CREAM charge detector" given at the CREAM collaboration meeting at the University of Maryland, July 10, 2000.

"A cross-discipline study of the pedagogical impact of item analysis technology." Presented at the New Mexico Higher Education Assessment Conference, February 24-26, 2000, Las Cruces NM.

"NASA Educational Materials and Opportunities on the Web." Workshop presented at the New Mexico Science Teachers Association Fall 1999 meeting, Hobbs, New Mexico, October 21, 1999.

"Antiprotons in the Cosmic Rays" Annual meeting of the Four Corners Section of the American Physical Society, Tucson, Arizona, Oct 1-2, 1999.

"K-12 Education Materials and Opportunities at NASA." Workshop presented at Eastern New Mexico University through Extended Learning, April, 1999.

"The HEAT Frame: Fabrication and Design Issues" given at the HEAT collaboration meeting in Ann Arbor, July, 1997.

"Design and status of the HEAT ToF" given at the HEAT collaboration meeting in Chicago, Illinois, May 4-5, 1997.

"Current status of the HEAT Time of Flight detector" given at the HEAT collaboration meeting in Ann Arbor, Michigan, Nov. 8-9, 1996.

"The HEAT Frame: Fabrication and Design Issues" given at the HEAT collaboration meeting in Ann Arbor, July, 1997.

"Design and status of the HEAT ToF" given at the HEAT collaboration meeting in Chicago, Illinois, May 4-5, 1997.

"Current status of the HEAT Time of Flight detector" given at the HEAT collaboration meeting in Ann Arbor, Michigan, Nov. 8-9, 1996.

"Examples of Technology Use in Teaching and Learning Applications at Eastern New Mexico University." Scott Nutter, Calvin DeWitt, and Ed Kinley. American Association of Higher Education 2nd Annual Teaching and Learning Technology Roundtable (TLTR) Summer Institute, Scottsdale, Arizona, July 12-16, 1996.

"Best Case Practices of Technology at Eastern New Mexico University." Calvin DeWitt, Scott Nutter, Mary Ayala, and Debra Hall. Mid-South Instructional Technology Conference, Middle Tennessee State University, Murfreesboro, Tennessee, April 6-8, 1997.

“SMILI: Superconducting Magnet Instrument for Light Isotopes: Design and Measurements.” California Institute of Technology Space Sciences seminar, May 1992.

“A Measurement of the $^3\text{He}/^4\text{He}$ Ratio in the Cosmic Radiation from 500 MeV/amu to 1100 MeV/amu”
At The 22nd International Cosmic Ray Conference, Dublin, Ireland. July, 1991.

Conferences Attended

Kentucky Academy of Sciences Fall 2009 Meeting, November 2009

International Cosmic Ray Conference, Lodz, Poland (July 2009)

American Physical Society April Meeting (Denver, CO) May 2009

Kentucky Academy of Sciences Fall 2008 Meeting, November 2008

International Cosmic Ray Conference, Merida Mexico (June 2007)

Kentucky Academy of Sciences Fall 2006 Meeting, November 2006

American Physical Society April Meeting, Dallas, April, 2006.

GEANT4 Tutorial, SLAC, Stanford, California, March, 2006.

Kentucky Academy of Sciences Fall 2005 Meeting, Kentucky, November 2005.

Kentucky Academy of Sciences Fall 2004 Meeting, Murray, Kentucky, November 2004.

Ohio Section of the American Physical Society Spring 2004 Meeting, Athens, Ohio, April 2004.

Kentucky Space Grant Consortium/NASA EPSCoR Conference, Lexington, Kentucky, May 2004.

Northern Kentucky University Education/Arts & Sciences mini-conference "Linking Content and Pedagogy: Strengthening Teacher Education." NKU, May 2004

Kentucky Association of Science Teachers Spring 2004 Meeting, Campbellsville, Kentucky, March 6, 2004.

Kentucky Academy of Sciences Fall 2003 Meeting, Bowling Green, Kentucky, November 2003.

Ohio Section of the American Physical Society Fall 2002 Meeting, October 2002.

Ohio Section of the American Physical Society Fall 2001 Meeting "Novel Techniques in Physics Pedagogy," October 2001.

International Cosmic Ray Conference, Hamburg, Germany, August 2001.

New Mexico Higher Education Assessment Conference, Las Cruces NM, February 2000.

New Mexico Collaboration for Excellence in Teacher Preparation, Albuquerque NM, November 1999.

New Mexico Science Teachers Association Annual meeting, Hobbs, NM, October 1999.

Four Corners Section of the APS Sectional meeting, University of Arizona, Tucson, AZ, October 1999.

4th Annual Mid-South Instructional Technology Conference, Middle Tennessee State University, Murfreesboro, Tennessee, March 28-30, 1999.

2nd Annual Mid-South Instructional Technology Conference, Middle Tennessee State University, Murfreesboro, Tennessee, April 6-8, 1997.

American Association of Higher Education 2nd Annual Teaching and Learning Technology Roundtable Summer Institute, Scottsdale, Arizona, July 12-16, 1996.

Four Corners Section of the APS Sectional meeting, University of New Mexico, Albuquerque, N.M., Spring 1998.

Mini-Conference on Technology & Learning in Large Classrooms. Portland State University, June 25-28, 1998.

National Symposium on Teaching Astronomy to Non-Science Majors. 110th meeting of the Astronomical Society of the Pacific, Albuquerque, NM, June 29-30 1998.

American Association of Higher Education Teaching and Learning Technology Roundtable, Washington DC 1995.

22nd International Cosmic Ray Conference, Dublin, Ireland. July, 1991.