

**Curriculum Vitae of  
John G. Cramer**  
*Current to May 10, 2007*

**Biographical Information**

**Personal Data**

Present position: Professor of Physics, University of Washington, Seattle, Washington, U.S.A.

Married to Pauline Ruth Bond Cramer, June, 1961;

Three children: Kathryn (b. 4/62), John III (b. 1/64), and Karen (b. 4/67);

Born October 24, 1934, Houston, Texas, U.S.A.;

**Educational History**

Ph.D. Degree in Physics from Rice University, Houston Texas (1961).

M.A. Degree in Physics from Rice University, Houston Texas (1959);

B.A. Degree in Physics from Rice University, Houston Texas (1957);

Educated in Houston Public Schools: Mirabeau B. Lamar High School (g. 1953), Sidney Lanier Junior High School (g. 1950), Edgar Allen Poe Elementary School (g. 1947);

**Academic Appointment History**

Professor, University of Washington (1974-present).

Associate Professor, University of Washington (1968-74);

Assistant Professor, University of Washington (1964-68);

Assistant Professor, Indiana University (1963-64);

Post Doctoral Fellow, Indiana University (1961-63);

**Research Grant History**

Additional private donations for about \$20,000 to support recent work in testing nonlocal quantum communications. (2007)

Research covered by "blanket" UW Center for Nuclear Physics and Astrophysics (CENPA) grant from U. S. Department of Energy (2000-present), current annual level about \$4,000,000;

Research covered by "blanket" UW Nuclear Physics Laboratory grant from U. S. Department of Energy (1964-2000);

NASA Breakthrough Propulsion Research Grant: Mach's Principle Test (\$50,000, 2000);

Support for WALTA Project, UW Dean of A&S and DOE Capital Equipment Funds (\$50,000, 1999);

Capital Equipment Grant: HP Workstations (\$55,000, 1992);

Capital Construction Contract: Superconducting Linac (\$8,000,000, 1984);

Capital Equipment Grant: Polarized Ion Source II (\$550,000, 1979);

Capital Equipment Grant: Polarized Ion Source I (\$300,000, 1968);

Capital Equipment Grant: Online Computer (\$400,000, 1965);

## Physics Department Service

Member: Physics Department Examinations Committee (1997-present), Chair (1997-2000)

Chairman: Introductory Lab Committee (2000- 2003)

Co-Principle Investigator of DOE Contract, Nuclear Physics Laboratory, University of Washington (1990-1994).

Director of the Nuclear Physics Laboratory, University of Washington (1983-90 during construction of the \$10 million superconducting linac);

Physics Dept. Executive Committee, University of Washington (1980-1982 and 1985-1994);

Principle Investigator of DOE Contract, Nuclear Physics Laboratory, University of Washington (1969-71 and 1978-80);

## Awards and Recognition

Articles about my recent work on an experimental test of nonlocal quantum communication have appeared in several news publications, including:

- New Scientist magazine (cover story), September 30, 2006.
- The Seattle Post-Intelligencer, Wednesday, November 6, 2006.
- The San Francisco Chronicle, Sunday, January 21, 2007.
- The Seattle Post-Intelligencer, Monday, April 9, 2007.
- USA Today, Monday, April 9, 2007.

I also gave five radio interviews (3 local stations plus stations in Spain and England) and one TV-news interview (KOMO-Channel 4) about the work.

One of the 12 invited speakers, including two Nobel Laureates, at the NASA Physics in the 3rd Millennum Conference in Huntsville, Alabama, April 6, 2005.

Gave First Hal Clement Memorial Lecture, Boston Science Fiction Society, Februar (2004).

Many radio interviews and newspaper articles in connection with producing "the Sound of the Big Bang", an audio clip created with Mathematica using WMAP data.(2004)

Interviewed for Danish Public Radio (2001);

Interviewed on KOMO TV, Seattle (2000);

Best Paper Award, CASYS-2000 International Conference (2000);

Interviewed for BBC Series on Quantum Mechanics (1999);

Interviewed on NPR Science Friday (1998);

Elected Fellow, American Association for the Advancement of Science (1991);

Listed in *Who's Who in America* (from 43rd Edition, 1984 to present);

Elected Fellow, American Physical Society (1974);

National Science Foundation Fellow at Rice University (1959-61);

Sigma-Xi Thesis Award at Rice University (1959);

Bausch-Lomb Science Award at Lamar High School Graduation(1953).

## Sabbaticals and Leaves

Visiting Professor, Max-Planck Institut für Physik, Werner-Heisenberg Institute, Munich (1994-5);

Visiting Professor, Hahn-Meitner Institut für Kernforschung, Berlin (1982-3);

Summer Fellow, Los Alamos National Laboratory (6/80 to 9/80);

NATO Fellow at Universität München (8/77 to 10/77);

Bundesministerium für Wissenschaft und Bildung Gastprofessor (1971-2), Sektion Physik, Universität München.

## **Program Advisory Activities**

Member: International Program Committee for the Workshop on Particle Correlations and Femtoscopy – 2005, held in Kromeriz, Czech Republic in August, 2005.

Member: International Program Committee for the Workshop on Particle Correlations and Femtoscopy – 2006, to be held in KSao Paulo, Brazil in August, 2006.

CASYS-2001 International Advisory Committee (2000-present);

NASA BPP Program Advisory Committee (1997-present);

Member of Experiment Evaluation Committee to TRIUMF Laboratory, Vancouver, B.C., (1984-88);

Program Advisory Committee to National Superconducting Cyclotron Laboratory, Michigan State University, (1984-86);

Program Advisory Consultant, 88-inch Cyclotron Laboratory, Lawrence Berkeley Laboratory, (1979-1983);

Member of Program Advisory Committee to Clinton P. Anderson Meson Physics Facility (LAMPF) of Los Alamos National Laboratory (1976-1979).

## **Professional Scientific Society Activities**

Member, APS/DNP Public Information Committee (1999-2004);

Member, APS Panel on Public Affairs (POPA) (1997-2000);

Member, APS/DNP Education Committee (1997-2000);

Member, APS/DNP Executive Committee (1981-1983);

Member, APS/DNP Nuclear Sciences Resources Committee, APS Division of Nuclear Physics (1977-1994, Chairman 1978-1981);

Member of APS Divisions of Nuclear Physics, Particle Physics, and Astrophysics;

Fellow, American Association for the Advancement of Science;

Fellow, American Physical Society.

## **Experiment Collaboration Activities**

STAR Collaboration at RHIC/BNL, Council Member (1990-present), Deputy Spokesman (1991);

Convenor, STAR HBT Physics Working Group (1996-2004);

NA49 Collaboration at SPS/CERN, Council Member (1992-present);

NA35 Collaboration at SPS/CERN, Council Member (1991-1996, completed).

## **Current Areas of Research Interest**

Ultra-relativistic heavy ion physics, pion and kaon HBT interferometry; the interpretation of quantum mechanics; ultra-high energy astrophysics; test of nonlocal quantum communication, experimental tests of Mach's Principle.

## **Publication Information**

## Invited Papers

"Evidence for a Chiral Phase Transition at RHIC", Physics Colloquium, Simon Fraser University, Vancouver, BC March 2, 2007.

"Radial Sensitivity of the DWEF Model Applied to RHIC Soft-Sector Data", (25 min invited talk), Workshop on Particle Correlations and Femtoscopy 2006, Sao Paulo, Brazil, September 9, 2006

"The DWEF Model Applied to RHIC Soft-Sector Data", (25 min invited talk), International Symposium on Multiparticle Dynamics 2006, Paraty, Brazil, September 3, 2006

"The DWEF Model, Pion Opacity, and HBT Radii", (30 min invited talk), Nucleus-Nucleus 2006, Rio de Janeiro, Brazil, September 1, 2006

"Reverse Causation and the Transactional Interpretation", AAAS Pacific Division: Frontiers of Time University of San Diego, San Diego, CA, June 21, 2006.

"The Quantum Handshake: An Overview of the Transactional Interpretation of Quantum Mechanics", invited lecture presented at the Colloque International «Charles Ehresmann : 100 ans», Amiens, France, 8 October, 2005.

"Evidence for a Chiral Phase Transition at RHIC", York University, Toronto, Physics Colloquium, September 20, 2005.

"Pion Opacity, Chiral Symmetry Restoration, and RHIC HBT", invited talk presented at the Workshop on Particle Correlations and Femtoscopy 2005, Kromeriz, Czech Republic, August 16, 2005.

"Chiral Symmetry Restoration, Pion Opacity, and the RHIC HBT Puzzle", invited talk presented at the International Symposium on Multiparticle Dynamics 2005, Kromeriz, Czech Republic, August 11, 2005.

"The RHIC HBT Puzzle, Chiral Symmetry Restoration, and Pion Opacity", contributed paper selected for oral presentation at Quark Matter 2005, Budapest, Hungary, August 5, 2005.

"The Quantum Handshake: A Review of the Transactional Interpretation of Quantum Mechanics", invited 1-hour lecture presented at the Time-Symmetry in Quantum Mechanics Conference, Sydney, Australia, 23 July 2005.

"Solving the RHIC HBT Puzzle", invited talk presented at the Workshop on Femtoscopy, RHIC/AGS Users Meeting. Brookhaven National Laboratory, June 21, 2005.

"Pion Opacity, Chiral Symmetry Restoration, and the Solution to the RHIC HBT Puzzle", - UW Physics Colloquium, February 28, 2005.

"The Blind Men and the Quantum", special lecture on quantum interpretations given to the UW Physics 225 Class, March 2, 2005.

"Looking Through the 'Veil of Hadronization': Pion Entropy & PSD at RHIC", - 30 minute talk given at the plenary session of the STAR Collaboration Meeting at Cal Tech, Pasadena, CA, on February 18, 2004.

"Pion Interferometry and RHIC Physics", Invited 50 minute talk given at the IX Mexican Workshop on Particles and Fields, "Beyond the Standard Model", held at the University of Colima, Colima Mexico, November 17-22, 2003.

"Pion Entropy and Phase Space Density at RHIC", - Invited 30 minute talk given at the Technical University of Warsaw, Warsaw, Poland on October 16, 2003.

"Tests of Mach's Principle with a Mechanical Oscillator," John G. Cramer, Damon P. Cassisi, and Curran W. Fey, invited paper presented at the AIAA Joint Propulsion Conference, BPP Session Breakout Session, Salt Lake City, UT, July 11, 2001

"Surprises from RHIC," John G. Cramer, a Physics Colloquium presented at the University of Washington Department of Physics, March 4, 2002.

"Portraying Physicists and Physics in Hard Science Fiction," John G. Cramer, invited paper presented at the March-2001 APS Meeting in Seattle, Session T1 - Successful Physicist Writers: The Medium and the Message, March 14, 2001, Bull.Am.Phys.Soc. 46, #1, 920 (2001).

"Recent Results from RHIC," John G. Cramer, a physics colloquium presented at the University of Washington Department of Physics, October 23, 2000.

"The Transactional Interpretation of Quantum Mechanics," John G. Cramer, a joint physics and philosophy colloquium presented at Georgetown University, Washington, D.C., October 2, 2000.

"The Transactional Interpretation of Quantum Mechanics," John G. Cramer, an invited 40 minute lecture presented at CASYS'2000, The 4th International Conference on Computing Anticipatory Systems, Liège, Belgium, August 8, 2000. This talk won the "best paper" award at the Conference. A printed version of the paper will appear in the proceedings of the Conference published by the APS.

"A Transactional Analysis of Quantum Non-Interaction Measurements," John G. Cramer, an invited 40 minute lecture presented at CASYS'2000, The 4th International Conference on Computing Anticipatory Systems, Liège, Belgium, August 11, 2000. A printed version of the paper will appear in the proceedings of the Conference published by the APS.

"Applications of the Transactional Interpretation of Quantum Mechanics," John G. Cramer, an invited 2 hour lecture presented at the Breakthrough Physics Lecture Series, Bevill Center, NASA Marshall Space Flight Center, Huntsville, AL, August 17, 2000.

"The Transactional Interpretation of Quantum Mechanics: Overview and Update," John G. Cramer, an invited 30 minute lecture presented at the Second Workshop on Fundamental Problems in Quantum Theory, University of Maryland in Baltimore County, August 9-12, 1999.

"Quantum Nonlocality and the Transactional Interpretation of Quantum Mechanics," John G. Cramer, invited two hour tutorial lecture presented at the NASA Breakthrough Propulsion Workshop, Cleveland OH, October 8, 1998.

"The WALTA Project and Ultra-High Energy Cosmic Rays," John G. Cramer, invited lecture to the Society of Physics Students, Bellevue Community College, November, 1998.

"Bose-Einstein Interferometry in CERN Experiment NA49," John G. Cramer, invited paper at the APS Spring Meeting in Columbus, Ohio.

"Quantum Nonlocality and the Interpretations of Quantum Mechanics," John G. Cramer, Invited three-hour tutorial lecture at "Physics in the Third Millennium," February 9-12, 1998, George C. Marshall Space Flight Center, Huntsville, Al.

"Quantum Nonlocality," invited one-hour lecture at "Breakthrough Propulsion Physics Workshop," John G. Cramer, August 12-14, 1997, Lewis Space Flight Center, Cleveland, OH.

"The Interpretation of Quantum Mechanics," John G. Cramer, Invited paper presented at NASA/JPL Workshop, May, 1994.

" 'Mixed Charge' HBT Interferometry with Large Pion Sources," John G. Cramer, invited talk at Washington APS Meeting, April, 1990.

"An Overview of the Transactional Interpretation of Quantum Mechanics," John G. Cramer, invited paper presented at the 1987 Symposium on Relativistic Quantum Theory and Interpretation," Loyola University, New Orleans, May, 1987.

"Quantum Paradoxes and the Transactional Interpretation of Quantum Mechanics," John G. Cramer, invited paper presented at the 1985 Esalen Seminar on Quantum Reality, February, 1985.

"Heavy Ion Scattering from Low Energies to High: The Stratosphere, The Nuclear Rainbow, and the Nucleon-Nucleon Domains," John G. Cramer, *Proceedings of the 2nd Indo-US Symposium on Nuclear Physics at Cyclotron and Intermediate Energy*, Ed., B. Sinha, p. 341, B.A.R.C., Bombay (1982).

"Large Angle Oscillations in Heavy Ion Elastic Scattering and Continuum VMI Rotational Band Structures," John G. Cramer, Invited paper presented at the Symposium on Heavy Ion Elastic Scattering, University of Rochester, October 25-26, 1977; published in proceedings of conference, pp. 454-472.

"Isobaric Analog Spectroscopy with Polarized Protons," Bull. Am. Phys. Soc. **22**, 85 (1977), presented (by M. P. Baker, graduate student of JGC) at the Chicago American Physical Society Meeting, January, 1977.

"Systematic Heavy Ion Elastic Scattering Measurements: A Map of the Optical Potential," John G. Cramer, Bull. Am. Phys. Soc. **21**, 991 (1976); presented at the APS Division of Nuclear Physics meeting in East Lansing, Michigan, October, 1976.

"Research with the University of Washington FN Tandem Accelerator," John G. Cramer, Bull. Am. Phys. Soc. **7**, 888 (1966); presented at the Stanford American Physical Society Meeting, December, 1966.

## Book Publications

"The Plane of the Present and the New Transactional Paradigm of Time," John G. Cramer, Chapter 9 of **Time and the Instant**, Ed.: Robin Drurie, Clinamen Press, London (2001); ISBN 1-903-08322-2.

"Symmetries and Antimatter," John G. Cramer, Chapter 5 of **A Guide to the Nuclear Science Wall Chart**, 2nd Edition, Contemporary Physics Education Project, Science Kit, Tonawanda, NY, (2001).

"Phases of Nuclear Matter," John G. Cramer, Chapter 9 of **A Guide to the Nuclear Science Wall Chart**, 2nd Edition, Contemporary Physics Education Project, Science Kit, Tonawanda, NY, (2001).

*Einstein's Bridge*, (a science fiction novel), John Cramer, (hardcover and trade paperback editions) Avon, New York (1995); (mass market paperback edition) AvoNova, New York (1996); now in 4th paperback printing; ISBN 1-380-78831-4.

*Twistor*, (a science fiction novel), John Cramer, (hardcover edition) William Morrow, New York (1987); (paperback) AvoNova, New York (1991), now in 4th paperback printing; ISBN 1-380-71027-7; also has paperback editions by New English Library (UK 1991) and by Hayakawa Publishing (Japan 1996) under the title *The Shadow of Gravity*.

"Isobaric Analog Resonances in Heavy Nuclei," Peter von Brentano and John G. Cramer, Chapter IV.A.3 of **Nuclear Spectroscopy and Reactions**, Ed.: J. Cerny, Academic Press, New York (1974).

## Publications in Refereed Scientific Journals

"Energy and centrality dependence of anti-p and p production and the anti-Lambda/anti-p ratio in Pb+Pb collisions between 20/A-GeV and 158/A-GeV",. NA49 Collaboration (C. Alt et al.) Published Apr 2006. Phys.Rev.**C73**:044910,2006.

"Inclusive production of charged pions in p+C collisions at 158-GeV/c beam momentum", NA49 Collaboration (C. Alt et al.) Published Jun 2006 in Eur.Phys.J.**C49**:897-917,2007. hep-ex/0606028

"Upper limit of  $D^0$  production in central Pb-Pb collisions at 158-A-GeV", NA49 Collaboration (C. Alt et al.). Jul 2005. 5pp. Published in Phys.Rev.**C73**:034910,2006. e-Print Archive: nucl-ex/0507031

"Identified hadron spectra at large transverse momentum in p+p and d+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV", B.I. Abelev, et al. (The STAR Collaboration), published April 27, 2006 Phys. Lett. B **637** (2006) 161 (nucl-ex/0601033)

"The multiplicity dependence of inclusive  $p_t$  spectra from p-p collisions at  $\sqrt{s_{NN}} = 200$  GeV", B.I. Abelev, et al. (The STAR Collaboration), published August 16, 2006 Phys. Rev. **D74** (2006) 032006 (nucl-ex/0606028)

"Scaling properties of hyperon production in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV", B.I. Abelev, et al. (The STAR Collaboration), published February 5, 2007 Phys. Rev. Lett. **98** (2007) 062301 (nucl-ex/0606014)

"Strange baryon resonance production in  $\sqrt{s_{NN}} = 200$  GeV p+p and Au+Au collisions", B.I. Abelev, et al. (The STAR Collaboration), published September 25, 2006 Phys. Rev. Lett. **97** (2006) 132301 (nucl-ex/0604019)

"Identified baryon and meson distributions at large transverse momenta from Au+Au

collisions at  $\sqrt{s_{NN}} = 200$  GeV", B.I. Abelev, et al. (The STAR Collaboration), published October 11, 2006 Phys. Rev. Lett. **97** (2006) 152301 (nucl-ex/0606003):

"Forward Neutral Pion Production in p+p and d+Au Collisions at  $\sqrt{s_{NN}}=200$  GeV", B.I. Abelev, et al. (The STAR Collaboration), published October 12, 2006 Phys. Rev. Lett. **97** (2006) 152302 (nucl-ex/0602011)

"Direct observation of dijets in central Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV", B.I. Abelev, et al. (The STAR Collaboration), published October 16, 2006 Phys. Rev. Lett. **97** (2006) 162301 (nucl-ex/0604018)

"Neutral Kaon Interferometry in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV", B.I. Abelev, et al. (The STAR Collaboration), published November 15, 2006 Phys. Rev. C **74** (2006) 054902 (nucl-ex/0608012)

"Longitudinal Double-Spin Asymmetry and Cross Section for Inclusive Jet Production in Polarized Proton Collisions at  $\sqrt{s_{NN}} = 200$  GeV", published December 18, 2006 Phys. Rev. Lett. **97** (2006) 252001 (hep-ex/0608030)

"The energy dependence of  $p_T$  angular correlations inferred from mean- $p_T$  fluctuation scale dependence in heavy ion collisions at the SPS and RHIC", B.I. Abelev, et al. (The STAR Collaboration), published January 18, 2007 J. Phys. G **34** (2007) 451 (nucl-ex/0605021)

"A Transactional Analysis of Interaction-Free Measurements", John G. Cramer, Foundations of Physics Letters **19**, 63-73, (2006), e-Print Archive: quant-ph/0508102.

"Erratum: Quantum Opacity, the RHIC Hanbury Brown–Twiss Puzzle, and the Chiral Phase Transition", J. G. Cramer, G. A. Miller, J. M. S. Wu, and J.-H. Yoon Phys. Rev. Lett. **95**, 139901 (2005) ; e-Print Archive nucl-th/0411031 was updated.

"Multiplicity and Pseudorapidity Distributions of Charged Particles and Photons at Forward Pseudorapidity in Au + Au Collisions at  $\sqrt{s_{NN}} = 62.4$  GeV", The STAR Collaboration, Phys. Rev. **C73** (2006) 034906, e-Print Archive: nucl-ex/0511026.

"Directed flow in Au+Au collisions at  $\sqrt{s_{NN}} = 62$  GeV", The STAR Collaboration, Phys. Rev. **C73** (2006) 034903, e-Print Archive: nucl-ex/0510053.

"Upper limit of  $D^0$  production in central Pb+Pb collisions at 158-A-GeV", The NA49 Collaboration, (C. Alt et al.), Phys. Rev. **C73** (2006) 034910, , e-Print Archive: nucl-ex/0507031.

"Hadronization geometry and charge-dependent number autocorrelations on axial momentum space in Au+Au collisions at  $\sqrt{s_{NN}} = 130$  GeV", The STAR Collaboration, Phys. Lett. B **634** (2006) 347; e-Print Archive: nucl-ex/0406035.

"Incident Energy Dependence of  $p_T$  Correlations at RHIC", The STAR Collaboration, Phys. Rev. **C72** (2005) 044902, e-Print Archive: nucl-ex/0504031.

"Azimuthal Anisotropy in Au+Au Collisions at  $\sqrt{s_{NN}} = 200$  GeV", The STAR Collaboration, Phys. Rev. **C72** (2005) 014904; e-Print Archive: nucl-ex/0409033.

"Event-wise mean- $p_T$  fluctuations in Au-Au collisions at  $\sqrt{s_{NN}} = 130$  GeV", The STAR Collaboration, Phys. Rev. **C71**, 064906 (2005).



"K(892)\* Resonance Production in Au+Au and p+p Collisions at  $\sqrt{s_{NN}} = 200$  GeV at STAR", The STAR Collaboration, Phys. Rev. **C71** (2005) 064902; e-Print Archive: nucl-ex/0412019.

"Pion Interferometry in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV", The STAR Collaboration, Phys. Rev. **C71** (2005) 044906; e-Print Archive: nucl-ex/0411036.

"System size and centrality dependence of the balance function in A + A collisions at  $\sqrt{s_{NN}} = 17.2$ -GeV", The NA49 Collaboration (C. Alt et al.). Phys.Rev.**C71** (2005) 034903, e-Print Archive: hep-ex/0409031.

"Multi-strange baryon elliptic flow in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV", Phys. Rev. Lett. **95** (2005) 122301, e-Print Archive: nucl-ex/0504022.

"Multiplicity and Pseudorapidity Distributions of Photons in Au + Au Collisions at  $\sqrt{s_{NN}} = 62.4$  GeV", Phys. Rev. Lett. **95** (2005) 062301, e-Print Archive: nucl-ex/0502008.

"Distributions of Charged Hadrons Associated with High Transverse Momentum Particles in pp and Au+Au Collisions at  $\sqrt{s_{NN}} = 200$  GeV", The STAR Collaboration, Phys. Rev. Lett. **95** (2005) 152301, e-Print Archive: nucl-ex/0501016.

"System-size dependence of strangeness production in nucleus-nucleus collisions at  $\sqrt{s_{NN}} = 17.3$ -GeV", The NA49 Collaboration, (C. Alt et al.), Phys. Rev. Lett. **94** (2005) 052301, e-Print Archive: nucl-ex/0406031.

" $\Omega$  and anti- $\Omega$  production in central Pb+Pb collisions at 40-AGeV and 158-AGeV". The NA49 Collaboration, (C. Alt et al.), Phys. Rev. Lett. **94** (2005) 192301, e-Print Archive: nucl-ex/0409004.

"Experimental and Theoretical Challenges in the Search for the Quark Gluon Plasma: The STAR Collaboration's Critical Assessment of the Evidence from RHIC Collisions", The STAR Collaboration, Nucl. Phys. A **757** (2005) 102, e-Print Archive: nucl-ex/0501009.

"Phi meson production in Au+Au and p+p collisions at  $\sqrt{s_{NN}} = 200$  GeV", The STAR Collaboration, Phys. Lett. B **612** (2005) 181; e-Print Archive: nucl-ex/0406003.

"Quantum Opacity, the RHIC Hanbury Brown–Twiss Puzzle, and the Chiral Phase Transition", John G. Cramer, Gerald A. Miller, Jackson M. S. Wu, and Jin-Hee Yoon, Physical Review Letters **94**, 102302 (2005); e-Print Archives (nucl-th/0411031).

"Pseudorapidity Asymmetry and Centrality Dependence of Charged Hadron Spectra in d+Au Collisions at  $\sqrt{s_{NN}} = 200$  GeV", The STAR Collaboration, Phys. Rev. **C70** (2004) 064907, e-Print Archives (nucl-ex/0408016).

"Azimuthal anisotropy and correlations at large transverse momenta in p+p and Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV", The STAR Collaboration, Phys. Rev. Lett. **93** (2004) 252301, e-Print Archives (nucl-ex/0407007).

"Open charm yields in d+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV", The STAR Collaboration, Phys. Phys. Rev. Lett. **94** (2005) 062301; e-Print Archives (nucl-ex/0407006).

"Measurements of transverse energy distributions in Au+Au collisions at  $\sqrt{s_{NN}} = 200$

GeV”, The STAR Collaboration, Phys. Rev. **C70** (2004) 054907, e-Print Archives (nucl-ex/0407003).

“Transverse-momentum dependent modification of dynamic texture in central Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV”, The STAR Collaboration, Phys. Rev. **C 71** (2005) 031901(R), e-Print Archives (nucl-ex/0407001).

“Centrality and pseudorapidity dependence of charged hadron production at intermediate  $p_T$  in Au+Au collisions at  $\sqrt{s_{NN}} = 130$  GeV”, The STAR Collaboration, Phys. Rev. **C 70** (2004) 044901, e-Print Archives (nucl-ex/0404020).

“Production of e+e- Pairs Accompanied by Nuclear Dissociation in Ultra-Peripheral Heavy Ion Collision”, The STAR Collaboration, Phys. Rev. **C 70** (2004) 031902(R), e-Print Archives (nucl-ex/0404012).

“Photon and neutral pion production in Au+Au collisions at  $\sqrt{s_{NN}} = 130$  GeV”, The STAR Collaboration, Phys. Rev. **C 70** (2004) 044902, e-Print Archives (nucl-ex/0401008).

“System-Size Dependence of Strangeness Production In Nucleus-Nucleus Collisions at  $\sqrt{s_{NN}} = 17.3$ -GeV”, the NA49 Collaboration (C. Alt et al.), Phys. Rev. Lett. **94** (2005) 052301; e-Print Archive: nucl-ex/0406031.

“Electric Charge Fluctuations In Central Pb+Pb Collisions At 20-A-GeV, 30-A-GeV, 40-A-GeV, 80-A-GeV, And 158-A-GeV”, the NA49 Collaboration (C. Alt et al.), Phys. Rev. **C 70**, (2004) 064903; e-Print Archive: nucl-ex/0406013.

“Azimuthal anisotropy at the Relativistic Heavy Ion Collider: the first and fourth harmonics”, The STAR Collaboration, Phys. Rev. Lett. **92** (2004) 062301, e-Print Archives (nucl-ex/0310029)

“Cross Sections and Transverse Single-Spin Asymmetries in Forward Neutral Pion Production from Proton Collisions at  $\sqrt{s_{NN}} = 200$  GeV”, The STAR Collaboration, Phys. Rev. Lett. **92** (2004) 171801, e-Print Archives (hep-ex/0310058)

“Identified particle distributions in pp and Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV”, The STAR Collaboration, Phys. Rev. Lett. **92** (2004) 112301, e-Print Archives (nucl-ex/0310004)

“Pion-Kaon Correlations in Central Au+Au Collisions at  $\sqrt{s_{NN}} = 130$  GeV”, The STAR Collaboration, Phys. Rev. Lett. **91** (2003) 262302, e-Print Archives (nucl-ex/0307025)

“ $\Lambda^0$  Production and Possible Modification in Au+Au and p+p Collisions at  $\sqrt{s_{NN}} = 200$  GeV”, The STAR Collaboration, Phys. Rev. Lett. **92** (2004) 092301, e-Print Archives (nucl-ex/0307023)

“Net charge fluctuations in Au+Au collisions at  $\sqrt{s_{NN}} = 130$  GeV”, The STAR Collaboration, Phys. Rev. **C 68** (2003) 044905, e-Print Archives (nucl-ex/0307007)

“Three-Pion Hanbury Brown–Twiss Correlations in Relativistic Heavy-Ion Collisions from the STAR Experiment”, The STAR Collaboration, Phys. Rev. Lett. **91** (2003) 262301, e-Print Archives (nucl-ex/0306028)

“Evidence from d+Au measurements for final-state suppression of high  $p_T$  hadrons

in Au+Au collisions at RHIC", The STAR Collaboration, Phys. Rev. Lett. **91** (2003) 072304, e-Print Archives (nucl-ex/0306024)

"Particle-type dependence of azimuthal anisotropy and nuclear modification of particle production in Au+Au collisions at  $\sqrt{s_{NN}} = 200$  GeV", The STAR Collaboration, Phys. Rev. Lett. **92** (2004) 052302, e-Print Archives (nucl-ex/0306007)

"Transverse momentum and collision energy dependence of high  $p_T$  hadron suppression in Au+Au collisions at ultrarelativistic energies", The STAR Collaboration, Phys. Rev. Lett. **91** (2003) 172302, e-Print Archives (nucl-ex/0305015)

"Observation of an Exotic  $S = -2$ ,  $Q = -2$  Baryon Resonance in Proton-Proton Collisions at the CERN SPS", The NA49 Collaboration, Phys.Rev.Lett. **92** (2004) 042003, e-Print Archives (hep-ex/0310014)

"Energy and centrality dependence of deuteron and proton production in Pb+Pb collisions at relativistic energies", The NA49 Collaboration, Phys. Rev. **C 69**, 024902 (2004)

"Directed and elliptic flow of charged pions and protons in Pb+Pb collisions at 40A and 158A GeV", The NA49 Collaboration, Phys. Rev. **C 68**, 034903 (2003)

"Disappearance of back-to-back high  $p_T$  hadron correlations in central Au + Au collisions at  $\sqrt{s_{NN}} = 200$  GeV", The STAR Collaboration: C. Adler et al., Phys. Rev. Lett. **90**, 082302 (2003), [nucl-ex/0210033].

"Centrality Dependence of High  $p_T$  Hadron Suppression in Au + Au Collisions at  $\sqrt{s_{NN}} = 130$  GeV", The STAR Collaboration: C. Adler et al., Phys. Rev. Lett. **89**, 202301 (2002), [nucl-ex/0206011].

"Azimuthal Anisotropy and Correlations in the Hard Scattering Regime at RHIC", The STAR Collaboration: C. Adler et al., Phys. Rev. Lett. **90**, 032301 (2003).

"Coherent  $\rho^0$  Production in Ultra-Peripheral Heavy Ion Collisions", The STAR Collaboration: C. Adler et al., Phys. Rev. Lett. **89**, 272303 (2002), [nucl-ex/0206004].

"Elliptic Flow From Two- and Four-Particle Correlations in Au + Au Collisions at  $\sqrt{s_{NN}} = 130$  GeV", The STAR Collaboration: C. Adler et al., Phys. Rev. **C66**, 034904 (2002), [nucl-ex/0206001].

" $K^*(892)^0$  Production in Relativistic Heavy Ion Collisions at  $\sqrt{s_{NN}} = 130$  GeV", The STAR Collaboration: C. Adler et al. Phys. Rev. **C66**, 061901(R) (2002), [nucl-ex/0205015].

"Azimuthal anisotropy of  $K^0$ s and  $+\bar{-}$  production at mid-rapidity from Au+Au collisions at  $\sqrt{s_{NN}} = 130$  GeV", The STAR Collaboration: C. Adler et al. Phys. Rev. Lett. **89**, 132301 (2002), [hep-ex/0205072].

"Mid-rapidity  $\Lambda$  and  $\Lambda\bar{-}$  Production in Au + Au Collisions at  $\sqrt{s_{NN}} = 130$  GeV", The STAR Collaboration: C. Adler et al. Phys. Rev. Lett. **89**, 092301 (2002), [nucl-ex/0203016].

"Energy Dependence of Pion and Kaon Production in Central Pb + Pb Collisions", The NA49 Collaboration: S.V. Afanasiev et al., Phys.Rev.**C66**:054902,2002, [nucl-ex/0205002].

"Cascade and Anti-Cascade+ Production in Central Pb+Pb Collisions at 158 GeV/c per Nucleon", The NA49 Collaboration: S.V. Afanasiev et al., Phys.Lett.B538:275-281,2002 [hep-ex/0202037].

"Mid-rapidity phi production in Au+Au collisions at  $\sqrt{s_{NN}} = 130$  GeV", C. Adler et al., Phys. **C 65**, 041901(R) (2002).

"Measurement of inclusive antiprotons from Au+Au collisions at  $\sqrt{s_{NN}} = 130$  GeV", C. Adler et al., Phys. Rev. Lett. **87**, 262302-1 (2001).

"Antideuteron and Antihelium production in Au+Au collisions at  $\sqrt{s_{NN}} = 130$  GeV", C. Adler et al., Phys. Rev. Lett. **87**, 262301-1 (2001).

"Identified Particle Elliptic Flow in Au+Au Collisions at  $\sqrt{s_{NN}} = 130$  GeV", C. Adler et al., Phys. Rev. Lett. **87**, 182301 (2001).

"Multiplicity distribution and spectra of negatively charged hadrons in Au+Au collisions at  $\sqrt{s_{NN}} = 130$  GeV", C. Adler et al., Phys. Rev. Lett. **87**, 112303 (2001).

"Pion Interferometry of  $\sqrt{s_{NN}} = 130$  GeV Au+Au collisions at RHIC", C. Adler et al., Phys. Rev. Lett. **87**, 082301 (2001).

"Midrapidity Antiproton-to-Proton Ratio from Au+Au  $\sqrt{s_{NN}} = 130$  GeV", C. Adler et al., Phys. Rev. Lett. **86**, 4778-4782 (2001).

"Elliptic Flow in Au+Au Collisions at  $\sqrt{s_{NN}} = 130$  GeV", K.H. Ackermann et al., Phys. Rev. Lett. **86**, 402-407 (2001).

"Event-by-event fluctuations of the kaon to pion ratio in central Pb+Pb collisions at 158 GeV per Nucleon," (The NA49 collaboration), S.V. Afanasev, et al., Phys.Rev.Lett. **86** 1965-1969 (2001), ArXiv preprint hep-ex/0009053.

"Deuteron production in central Pb+Pb collisions at 158A GeV," (The NA49 collaboration), S.V. Afanasev, et al., Physics-Letters-**B486**.22-8 (2000).

"Elliptic Flow in Au + Au Collisions at  $\sqrt{s_{NN}} = 130$  GeV," The STAR Collaboration, K.H. Ackermann, et al., Phys. Rev. Lett. **86** 402-407 (2001); ArXiv preprint nucl-ex/0009011

"Production of  $\phi$ -mesons in p+p, p+Pb and central Pb+Pb collisions at  $E_{\text{beam}}=158$  A GeV," The NA49 collaboration, S.V. Afanasev, et al., Physics-Letters **B491**, 59-66 (2000).

"Spectator Nucleons in Pb + Pb Collisions at 158-A-GeV," The NA49 Collaboration, H. Appelshäuser et al., Eur. Phys. Jou. **A2**, 383-390 (1998).

"Universal Pion Freeze-out Phase-Space Density," D. Ferenc, U. Heinz, B. Tomavskik, U.A. Wiedemann, and J.G. Cramer, Physics Letters **B457**, 347-352 (1999), e-Print Archive: hep-ph/9902342.

"Event-By-Event Fluctuations of Average Transverse Momentum in Central Pb + Pb

Collisions at 158-GeV per Nucleon," The NA49 Collaboration, H. Appelshäuser et al., Phys. Lett. **B459**, 679-686 (1999), e-Print Archive: hep-ex/9904014

"Two Proton Correlations from 158-A/GeV Pb + Pb Central Collisions," The NA49 Collaboration, H. Appelshäuser et al.), Phys. Lett. **B467**, 21-28 (1999), e-Print Archive: nucl-ex/9905001

"The NA49 Large Acceptance Hadron Detector," The NA49 Collaboration (S. Afanasiev et al.). Nucl. Instrum. & Meth. **A430** 210-244 (1999).

"Charged Particle Production in Proton, Deuteron, Oxygen and Sulfur Nucleus Collisions at 200 GeV per Nucleon," The NA35 Collaboration, T. Alber et al., Eur.Phys.J. **C2**, 643-659 (1998); LANL Archive preprint hep-ex/9711001.

" $\Xi$  and  $\Xi$ -bar Production in 158 GeV/nucleon Pb+Pb Collisions," The NA49 Collaboration, H. Appelshäuser, et al., Physics Letters **B 444**, 523-530 (1998); LANL Archive preprint nucl-ex/9810005.

"Baryon Stopping and Charged Particle Distributions in Central Pb+Pb Collisions at 158-GeV per Nucleon," The NA49 Collaboration, H. Appelshäuser et al., Phys. Rev. Lett. **82**, 2471-2475,(1999), LANL Archive preprint nucl-ex/9810014

"Hadronic expansion dynamics in central Pb+Pb collisions at 158 GeV per nucleon," The NA49 Collaboration, H. Appelshäuser, et al., European Physical Journal **C 2**, 661-670 (1998).

"Spectator Nucleons in Pb+Pb Collisions at 158 A-GeV," The NA49 Collaboration, H. Appelshäuser, et al., European Physical Journal **C 2**, 383-390 (1998).

"Particle Identification in the NA49 TPCs," B. Lasiuk for the NA49 Collaboration, Nuclear Instruments and Methods **A409**, 402-406 (1998).

"Performance of the Large-Scale TPC Systems in the CERN Heavy Ion Experiment NA49," S. Wenig for the NA49 Collaboration, Nuclear Instruments and Methods **A409**, 100-104 (1998).

"Directed and Elliptic Flow in 158-GeV/Nucleon Pb + Pb Collisions," The NA49 Collaboration, H. Appelshäuser, et al., Phys. Rev. Letters **80**, 4136 (1998).

"The Nuclear Science Wall Chart," The Nuclear Wall Chart Committee, Gordon J. Aubrecht, et al., The Physics Teacher **35**, 544-545 (1997).

"Antibaryon production in sulfur-nucleus collisions at 200 GeV per nucleon," The NA35 Collaboration, T. Alber et al., Phys. Lett. B. **366**, 56 (1996).

"New developments in high precision, high particle density tracking with time projection chambers," The NA49 Collaboration, Nucl Instrum. Methods A **360**, 52 (1995).

"NA49 TPC electronics," The NA49 Collaboration, Nucl. Instrum. Methods A **385**, 535 (1997).

"Transverse energy production in  $^{208}\text{Pb}+\text{Pb}$  collisions at 158 GeV per nucleon," The NA49 Collaboration, T. Alber et al., Physical Review Letters **75**, 3814-17 (1995).

"'No-Background' Maximum Likelihood Analysis in HBT Interferometry," John G. Cramer, Nucl. Inst. & Meth. A **370**, 516-520 (1996).

"Cumulants, Coherence, and Contamination in Multiparticle Bose-Einstein Interferometry," J. G. Cramer and K. Kadija, Physical Review **C53**, 908-917 (1996).

"Natural Wormholes as Gravitational Lenses," J. G. Cramer, R. W. Forward, M. S. Morris, M. Visser, G. Benford, and G. A. Landis, Physical Review **D51**, 3117-3120 (1995).

"Transverse momentum dependence of Bose-Einstein correlations in 200A GeV/c S + A collisions," The NA35 Collaboration, T. Alber et al., Phys. Rev. Letters **74**, 1303 (1995).

"Two-pion Bose-Einstein correlations in nuclear collisions at 200 GeV/nucleon," The NA35 Collaboration, T. Alber et al., Z. Phys. **66**, 77 (1995).

"Using Maximum Likelihood analysis in HBT interferometry: bin-free treatment of correlated errors," John G. Cramer, Daniel Ferenc, and Marek Gazdzicki, Nucl. Inst. & Meth. A **351**, 489-492 (1994).

"Strange particle production in nuclear collisions at 200 GeV per nucleon," The NA35 Collaboration, T. Alber et al., Z. Phys. **C64** 195-207 (1994).

"The NA49 data acquisition system," The NA49 Collaboration, W. Rausch et al., IEEE Transactions on Nuclear Science **41**, 30-36 (1994).

"Analysis of multiparticle Bose-Einstein correlations in ultrarelativistic heavy ion collisions," John G. Cramer, Physical Review C **43**, 2798 (1991).

"Velocity Reversal and the Arrow of Time," John G. Cramer, Foundations of Physics, **18**, 1205 (1988).

"An Overview of the Transactional Interpretation of Quantum Mechanics," John G. Cramer, International Journal of Theoretical Physics **27**, 227 (1988).

"LYRAN: A Program for the Analysis of Linac Beam Dynamics," John G. Cramer, et. al., Nuclear Instruments and Methods **A262**, 200 (1987).

"Status of the University of Washington Superconducting Booster," John G. Cramer, et al., Review of Scientific Instruments, **57**, 761 (1986).

"Total reaction cross sections for  $^{12}\text{C}$  on  $^{12}\text{C}$ ,  $^{40}\text{Ca}$ ,  $^{90}\text{Zr}$ , and  $^{208}\text{Pb}$  between 10 and 35 MeV/nucleon," Physical Review **C34**, 2165 (1986).

"The Transactional Interpretation of Quantum Mechanics," John G. Cramer, Reviews of Modern Physics **58**, 647 (1986).

"Refractive Scattering and the Nuclear Rainbow in the Interaction of  $^{12-13}\text{C}$  with  $^{12}\text{C}$  at 20 MeV/N," John G. Cramer, et al., Z. Phys. A **322**, 241 (1985).

"A Simple Method of Making  $3\ \mu\text{g}/\text{cm}^2$  Cracked Slacked Carbon Accelerator Stripper Foils," John G. Cramer, et al., Nuclear Instruments and Methods **A236**, 572 (1985).

"The University of Washington Superconducting Booster Project," John G. Cramer, et al., Nuclear Instruments and Methods **220**, 204 (1984).

"Elastic and Inelastic Scattering of Polarized Protons from  $^{208}\text{Pb}$  near Isobaric Analog Resonances," John G. Cramer, et al., Physical Review **C28**, 1040 (1983).

"The Arrow of Electromagnetic Time and Generalized Absorber Theory," John G. Cramer, Foundations of Physics **13**, 887 (1983).

"Dominance of Nucleon-Nucleon Interactions in  $\alpha$  Isobaric Analog Resonance," John G. Cramer, et al., Phys. Rev. **C17**, 2053 (1978).

"Heavy Ion Elastic Scattering (II). 142 MeV  $^{16}\text{O}$  on  $^{28}\text{Si}$ ,  $^{59}\text{Co}$  and  $^{60}\text{Ni}$ ," John G. Cramer, et al., Nuclear Physics **A298**, 313 (1978).

"A Possible Photon-Detection Method for Distinguishing between Stars and Galaxies Composed of Matter and Antimatter," John G. Cramer, and Wilfred J. Braithwaite, Phys. Rev. Letters **39**, 1104, (1977).

"The Transition between Light and Heavy Ion Elastic Scattering," John G. Cramer, et al., Phys. Rev. Letters **39**, 450, (1977).

"A "Unique" Energy-Independent Woods-Saxon Optical Potential for  $^{16}\text{O} + ^{28}\text{Si}$  Elastic Scattering," John G. Cramer, et al., Phys. Rev. **C14**, 2158 (1976).

"Application of the Austern-Blair Theory to the Interference between Coulomb and Nuclear Excitation in the Inelastic Scattering of Heavy Ions," John G. Cramer and Konrad Gelbke, Phys. Rev. **C14**, 1048, (1976).

"Effects of Non-Local Potentials in Heavy Ion Reactions," John G. Cramer and Ralph M. Devries, Phys. Rev. **C14**, 122, (1976).

"The ( $^{12}\text{C}, ^{8}\text{Be}$ ) Reaction on  $^{12}\text{C}$ ,  $^{16}\text{O}$ ,  $^{24,26}\text{Mg}$ ,  $^{40,48}\text{Ca}$ ,  $^{56}\text{Fe}$  and  $^{58}\text{Ni}$  between 50 and 65 MeV Bombarding Energy," John G. Cramer, et al., Nuclear Physics **A259**, 129 (1976).

"A New Technique for the Bunching of Charged Particle Beams," John G. Cramer, Nuclear Instruments & Methods **128**, 597 (1975).

"Suggestion for a Charge-State "Enforcer" for Heavy Ion Accelerators," John G. Cramer, Nuclear Instruments & Methods **130**, 121 (1975).

" $^{16,18}\text{O}$  Elastic Scattering from  $^{58}\text{Ni}$ ," John G. Cramer, et al., Phys. Rev. **C11**, 809 (1975).

"Importance of Coulomb Interaction Potentials in Heavy-Ion Distorted Wave Born Approximation Calculations," John G. Cramer, et al., Phys. Rev. Letters **32**, 1377 (1974).

"Observations of an Anomalous Angular Distribution in the Single-Nucleon Transfer Reaction  $^{12}\text{C}(^{14}\text{N}, ^{13}\text{N})^{13}\text{C}$  at 100 MeV," John G. Cramer, et al., Phys. Rev. Letters **32**, 680 (1974).

"A Study of the  $^6\text{Li}(^6\text{Li}, ^6\text{Li}^*_{-3.56})^6\text{Li}^*_{-3.56}$  and the  $^6\text{Li}(^6\text{Li}, ^6\text{He})^6\text{Be}$  Reactions," John G. Cramer, et al., Phys. Rev. **C9**, 156 (1974).

"An Array Detector for the Spectroscopic Study of Reactions Producing  $^8\text{Be}$  and  $^8\text{Be}^*$ ," John G. Cramer, et al., Nuclear Instruments & Methods **111**, 425 (1973).

"Influence of J-Dependent Absorption on the Inelastic Scattering of Alpha Particles," John G. Cramer, et al., Phys. Rev. **C8**, 625 (1973).

"Spin Determination with Alpha + Heavy-Ion Angular Correlations," John G. Cramer and Wilfred J. Braithwaite, Phys. Rev. Letters **31**, 401 (1973).

"Measurement and Microscopic Analysis of the Reactions  $^6\text{Li}(^6\text{Li}, ^6\text{Li}^*_{3.56})^6\text{Li}^*_{3.56}$  and  $^6\text{Li}(^6\text{Li}, ^6\text{He})^6\text{Be}$ ," John G. Cramer, et al., Phys. Rev. Letters **31**, 54 (1973).

"Four-Nucleon Transfer from  $^{16}\text{O}$  to  $^{90}\text{Zr}$  near the Coulomb Barrier," John G. Cramer, et al., Phys. Rev. Letters **29**, 1337 (1972).

"Graphical Plotting Output on a Line Printer using High-Density Plotting Symbols," John G. Cramer, Computer Physics Comm. **3**, 314 (1972).

"The Reduced Rotation Matrix: Plots and Zeros," John G. Cramer and Wilfred J. Braithwaite, Nuclear Data Tables **10**, 469 (1972).

"The Reduced Rotation Matrix," John G. Cramer and Wilfred J. Braithwaite, Computer Physics Comm. **3**, 318 (1972).

"Polarization Effects in the Isospin-Coupled Reaction Channels  $p + ^{91}\text{Zr}$  and  $n + ^{91}\text{Nb}^*_{\text{IAS}}$ ," John G. Cramer, et al., Phys. Rev. **C6**, 3667 (1972).

"A Measurement of the Isospin Purity of the Singlet Deuteron," John G. Cramer, et al., Physics Lett. **38B**, 67 (1972).

"Study of Charge Exchange Coupling in Proton-Induced Reactions on  $^{95,98,100}\text{Mo}$  and  $^{92,94}\text{Zr}$ ," John G. Cramer, et al., Phys. Rev. **C4**, 1366 (1971).

"Proton -Channel Analog Resonances and Weak Coupling in the  $^{205}\text{Tl}(d,p)^{206}\text{Tl}$  Reaction," John G. Cramer, et al., Physics Letters **30B**, 1 (1969).

"Charge-Exchange Coupling in  $^{98}\text{Mo} + p$  Reactions," John G. Cramer, et al., Phys. Rev. Letters **22**, 301 (1969).

"An Estimate of the  $^3\text{He}$  Spin-Orbit Potential from Spin-Flip Measurements," John G. Cramer, et al., Physics Letters **27B**, 373 (1968).

" $1^-$  Neutron Particle Hole States in  $^{208}\text{Pb}$  Populated by the Decay of Analog Resonances," John G. Cramer, et al., Phys. Rev. Letters **21**, 297 (1968).

"A Computer Program for the Calculation of Tandem Accelerator Beam Tube Optics," John G. Cramer, Nuclear Instruments & Methods **62**, 205 (1968).

"A Measurement of the  $^{35}\text{Cl}(p,n)^{35}\text{Ar}$  Threshold and its Relevance to the Vector Coupling Constant," John G. Cramer, et al., Physics Letters **27B**, 507 (1968).

"The Biased Quadrupole: A Method of Steering Accelerator Beams," John G. Cramer, et al., Nuclear Instruments and Methods **46**, 341 (1966).

"The Charge State Distribution of  $^{16}\text{O}$  Ions Produced from a Tandem Accelerator,"



John G. Cramer, et al., Review of Scientific Instruments **37**, 1722 (1966).

"Alpha-Gamma Correlation Studies of the  $^{56}\text{Fe}(\alpha, \alpha')_{\chi_{0.84}}^{56}\text{Fe}$  Reaction," John G. Cramer, et al., Physics Letters **18**, 34 (1965).

"The Correction of Resolution Distortion in Continuous Pulse-Height Spectra," John G. Cramer, et al., Nuclear Instruments & Methods **26**, 257 (1964).

"Angular Correlation Studies of Nuclear Polarization following Inelastic Alpha Particle Scattering from  $^{12}\text{C}$  and  $^{24}\text{Mg}$ ," John G. Cramer, et al., Nuclear Physics **55**, 613 (1964).

"Angular Correlations and Nuclear Polarization from the Inelastic Scattering of Alpha Particles," John G. Cramer, et al., Nuclear Physics **55**, 593 (1964).

"Correlation Studies of the Alpha Particle Breakup of the 9.6 MeV  $3^-$  State in  $^{12}\text{C}$  Induced by  $(\alpha, \alpha')$  Scattering," John G. Cramer, et al., Physics Letters **5**, 170 (1963).

"The Production of Unnatural Parity States by Inelastic Alpha-Particle Scattering," John G. Cramer, et al., Phys. Rev. Letters **9**, 497 (1962).

"The Beta Decay of  $^{41}\text{Sc}$ ," John G. Cramer and C. M. Class, Nuclear Physics **34**, 580 (1962).

"A Scintillation Spectrometer for High Energy Beta Decays," John G. Cramer, et al., Nuclear Instruments & Methods **16**, 289 (1962).

## Publications in Conference Proceedings

*(Note: Many more such publications form STAR and NA49, but none later than 2004 listed here in the interest of brevity.)*

"Pion Entropy and Phase Space Density in RHIC Collisions", John G. Cramer for the STAR Collaboration, Proceedings of the 2nd Warsaw Meeting on Particle Correlations and Resonances in Heavy ion Collisions, October 15-18, 2003, Nukleonika **49**, S41-44, (2004).

"Non-Identical Particle Correlation Analysis As A Probe Of Transverse Flow", F. Retiere, for the STAR Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0212026].

"Jets and Dijets in Au+Au and p+p Collisions at RHIC", D. Hardtke for the STAR Collaboration, for the STAR Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0212004]

"Correlations, Fluctuations, and Flow Measurements from the STAR Experiment", R. L. Ray, for the STAR Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0211030].

"Measurement of Source Chaoticity for Particle Emission in Au+Au Collisions at  $\sqrt{\text{SNN}} = 130$  GeV using 3-Particle HBT Correlations", R. Willson for the STAR Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0211026].

"Soft Physics in STAR", G. Van Buren for the STAR Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0211021].

"Interplay of Correlations and Fluctuations in Au+Au Collisions at RHIC", M.L.Kopytine for the STAR Collaboration, Presented at the 11th International Sakharov Conference on Physics, Moscow, Russia, June 24-29 2002, [nucl-ex/0211019].

"High Transverse Momentum Results from the STAR Collaboration", G. J. Kunde for the STAR Collaboration and the STAR-RICH Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0211018].

"Omega and Anti-Omega+ production in Au + Au collisions at  $\sqrt{s_{NN}} = 130$  and 200 GeV", Christophe Suire for the STAR Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 2002, to appear in Nucl. Phys. A, [nucl-ex/0211017].

"Long Range Hadron Density Fluctuations at Soft pT in Au+Au Collisions at RHIC", Mikhail L. Kopytine for the STAR Collaboration, Presented at the Xth International Workshop on Multiparticle Production (Correlation and Fluctuations in QCD), Istron Bay, Greece, June 8-15 2002, [nucl-ex/0211015].

"Measurements of Photon and Neutral Pion Production in Heavy Ion Collisions at RHIC"; I. J. Johnson for the STAR collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0211003].

" $\rho(770)0$ ,  $K^*(892)0$  and  $f_0(980)$  Production in Au+Au and p+p Collisions at  $\sqrt{s_{NN}} = 200$  GeV", P. Fachini for the STAR Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0211001].

"Mid-rapidity  $K$ , and  $p$ -bar Spectra and Particle Ratios from STAR", Olga Barannikova and Fuqiang Wang for the STAR Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0210034]

" $\Xi$  and Anti- $\Xi$ + Baryon Production in Au+Au Collisions at  $\sqrt{s_{NN}} = 130$  GeV", Javier Castillo for the STAR Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0210032]

"Identical Particle Interferometry at STAR", Mercedes Lopez Noriega for the STAR Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0210031]

"Coherent Vector Meson Production in Ultra-Peripheral Heavy-Ion Collisions at STAR", F. Meissner for the STAR Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0210028]

"Azimuthal Anisotropy of Charged and Identified High pT Hadrons in Au + Au Collisions at RHIC". K. Filimonov for the STAR Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0210027].

"High  $p_T$  Inclusive Charged Hadron Spectra from Au+Au Collisions at  $\sqrt{s_{NN}} = 200$  GeV", Jennifer L. Klay for the STAR Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0210026].

"Results on Correlations and Fluctuations", Christoph Blume for the NA49 Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A.

"Directed and Elliptic Flow in Pb+Pb Collisions at 40-A-GeV and 158-A-GeV", Alexander Wetzler for the NA49, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0212023].

"System Size Dependence of Strangeness Production at 158-A-GeV", C. Hohne for the NA49 Collaboration, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0209018].

"Baryon and Anti-Baryon Production in Hadron Hadron and Hadron Nucleus Interactions", M. Kreps for the NA49, Proceedings of Quark Matter 2002, Nantes, France, July 18-24, 2002, to appear in Nucl. Phys. A, [nucl-ex/0209003]

"STAR Results on Strangeness Production at RHIC Energies", Christelle Roy for the STAR Collaboration, Proceedings of the XLI International Winter Meeting on Nuclear Physics, Bormio (Italy) January 26 - February 2, 2003, [nucl-ex/0303004].

"Azimuthally-Sensitive Pion HBT at RHIC", Mike Lisa, for the STAR Collaboration, presented at the XXXII International Symposium on Multiparticle Dynamics (ISMD2002), Alushta, Ukraine, [nucl-ex/0301005].

"Analyzing Powers for Forward  $p + p \rightarrow 0 + X$  at STAR", G. Rakness for the STAR Collaboration, presented at the "15th International Spin Physics Symposium," SPIN2002, September 9-14, 2002, Brookhaven National Laboratory, Upton, NY, [hep-ex/0211068]

"Recent Results from STAR", M. Oldenburg, for the STAR Collaboration, Proceeding of the 14th Topical Conference on Hadron Collider Physics (HCP 2002) held in Karlsruhe, Germany, [nucl-ex/0211033].

"Elementary Hadronic Interactions at the CERN SPS", The NA49 Collaboration (H.G. Fischer for the collaboration). Proceedings of 30th International Workshop on Gross Properties of Nuclei and Nuclear Excitation, Hirschegg, Austria, 13-19 Jan 2002, [hep-ex/0209043]

"Soft Particle Spectra at STAR", Zhangbu Xu for the STAR Collaboration Presented at the XXXVIIth Rencontres de Moriond "QCD and High Energy Hadronic Interactions" in Les Arcs 1800, France(03/16/2002), [nucl-ex/0207019]

"The First Polarized Proton Collisions at the STAR Experiment at RHIC", Bernd Surrow for the STAR Collaboration, Invited talk given at the Rencontres de Moriond 2002 on QCD and High Energy Hadronic Interactions, [hep-ex/0205090].

"Baryon Number Transfer in Nuclear Collisions at SPS Energies", A. Rybicki for the NA49 Collaboration, Presented at the Cracow Epiphany Conference on Quarks and Gluons in Extreme Conditions, Cracow, Poland, 3-6 Jan 2002, Acta Phys. Polon. B33:1483-1494, 2002.

"Baryon Number Transfer and Central Net Baryon Density in Elementary Hadronic Interactions", The NA49 Collaboration (A. Rybicki for the collaboration), Presented at the Cracow Epiphany Conference on Quarks and Gluons in Extreme Conditions, Cracow, Poland, 3-6 Jan 2002, Acta Phys. Polon. B33:1473-1482, 2002

"Recent Results of NA49", H.G. Fischer for the NA49 Collaboration, Proceedings of 30th International Workshop on Gross Properties of Nuclei and Nuclear Excitation, Hirschegg, Austria, 13-19 Jan 2002, published in Hirschegg 2002, Ultrarelativistic heavy-ion collisions, 39-44, 2002

"Strange Particle Production in Nuclear Collisions at CERN NA49", The NA49 Collaboration (Daniel Barna for the collaboration). Proceedings of 37th Rencontres de Moriond on Electroweak Interactions and Unified Theories, Les Arcs, France, 9-16 Mar 2002 [hep-ex/0205042].

"K\*(892)0 Production in Relativistic Heavy Ion Collisions at  $\sqrt{s_{NN}} = 130$  GeV", P. Fachini for the STAR Collaboration, Proceedings of Strange Quarks in Matter (SQM2001), Frankfurt am Main, Germany, J. Phys. G28 (2002) 1599-1606, [nucl-ex/0203019].

"Ultra-Peripheral Collisions in STAR", Pablo Yepes for the STAR Collaboration, : Presented at the Workshop on Electromagnetic Probes of Fundamental Physics, Erice, Sicily (Italy), October 18, 2001, [nucl-ex/0202022]

"Energy Dependence of Kaon Production in Central Pb+Pb Collisions", The NA49 collaboration (T. Kollegger for the collaboration). Proceedings of 6th International Conference on Strange Quarks in Matter: 2001: A Flavorspace Odyssey (SQM2001), Frankfurt, Germany, 25-29 Sep 2001, J.Phys.G28:1689-1696, 2002, [nucl-ex/0201019].

"Lambda Production in Central Pb+Pb Collisions at CERN SPS Energies", The NA49 Collaboration (S.V. Afanasiev et al.), Proceedings of 6th International Conference on Strange Quarks in Matter: 2001: A Flavorspace Odyssey (SQM2001), Frankfurt, Germany, 25-29 Sep 2001, J.Phys.G28:1761-1768, 2002, [nucl-ex/0201012].

"STAR Strangeness Results from  $\sqrt{s_{NN}} = 130$  GeV Au+Au Collisions (and first results from 200 GeV)", G. Van Buren, for the STAR Collaboration, Proceedings of Strange Quarks in Matter (SQM2001), Frankfurt am Main, Germany, J. Phys. G28 (2002) 2103-2108, [nucl-ex/0201009].

"Results from the STAR Experiment", J.W. Harris (STAR Collaboration), Nuclear Physics A698 (2002) 64c-77c.

"Strangeness Production at RHIC", H. Caines (STAR Collaboration), Nuclear Physics A698 (2002) 112c-117c

"Negatively Charged Hadron Spectra in Au + Au Collisions", M. Calderon de la Barca Sanchez (STAR Collaboration), Nuclear Physics A698 (2002) 503c-506c

"High p Hadron Spectra in Au + Au Collisions", J.C. Dunlop (STAR & STAR-RICH Collaboration), Nuclear Physics A698 (2002) 515c-518c.

"Antinucleus Production at RHIC", Hardtke (STAR Collaboration), Nuclear Physics A698 (2002) 671c-674c.

"Anti-Baryon to Baryon Ratios in Au + Au Collisions", H.Z. Huang (STAR Collaboration), Nuclear Physics A698 (2002) 663c-666c.

"The STAR-RICH Detector", B. Lasiuk (STAR & STAR-RICH Collaboration), Nuclear Physics A698 (2002) 452c-455c.

"STAR Event-by-Event Fluctuations", J.G. Reid (STAR Collaboration), Nuclear Physics A698 (2002) 611c-614c.

"Elliptic flow in Au + Au collisions", R.J.M. Snellings (STAR Collaboration), Nuclear Physics A698 (2002) 193c-198c.

"Resonance studies at STAR", Z. Xu (STAR Collaboration), Nuclear Physics A698 (2002) 607c-610c.

"Overview of the Status and Strangeness Capabilities of STAR," P.G. Jones for the the STAR Collaboration et al., Presented at the 5th International Conference on Strangeness in Quark Matter (Strangeness 2000), Berkeley, California, 20-25 Jul 2000, J. Phys.**G27** 651-658 (2001); e-print nucl-ex/0009005

"Stopping and Strangeness Production in Nuclear Collisions at the CERN SPS," D. Rohrlich for the NA49 Collaboration, Presented at the 15th International Conference On Particle And Nuclei (PANIC 99), 10-16 Jun 1999, Uppsala, Sweden, Nuclear Physics.**A661**, 713-716 (2000).

"Universal Pion Freeze-Out Phase-Space Density," D. Ferenc; U. Heinz; B. Tomasik; U.A. Wiedemann; and J.G. Cramer, Presented at the 14th International Conference On Ultrarelativistic Nucleus-Nucleus Collisions (QM 99) 10-15 May 1999, Torino, Italy, Nuclear-Physics **A661**, 374c-378c (1999).

"Strangeness Production in Nuclear Collisions: Recent Results from Experiment NA49," C. Hohne for the NA49 Collaboration, Presented at the 14th International Conference On Ultrarelativistic Nucleus-Nucleus Collisions (QM 99) 10-15 May 1999, Torino, Italy, Nuclear-Physics **A661**, 485-488 (1999).

"Event-By-Event Physics in NA49," J.G. Reid for the NA49 Collaboration, Presented at the 14th International Conference On Ultrarelativistic Nucleus-Nucleus Collisions (QM 99) 10-15 May 1999, Torino, Italy, Nuclear-Physics **A661**, 407-410 (1999).

"Anti-Proton Production in Nuclear Collisions at 158-A-GeV/c," G.I. Veres for the NA49 Collaboration, Presented at the 14th International Conference On Ultrarelativistic Nucleus-Nucleus Collisions (QM 99) 10-15 May 1999, Torino, Italy, Nuclear-Physics **A661**, 383-386 (1999).

"Stopping: from Peripheral to Central Nuclear Collisions at the SPS," G.E. Cooper for the NA49 Collaboration, Presented at the 14th International Conference On Ultrarelativistic Nucleus-Nucleus Collisions (QM 99) 10-15 May 1999, Torino, Italy, Nuclear-Physics **A661**, 362-365 (1999).

"Hadron Production in Nuclear Collisions from the NA49 Experiment at 158-GeV/c/A," J. Bachler for the NA49 Collaboration, Presented at the 14th International Conference On Ultrarelativistic Nucleus-Nucleus Collisions (QM 99) 10-15 May 1999, Torino, Italy, Nuclear-Physics **A661**, 45-54 (1999).

"The STAR Silicon Drift Vertex Detector," S. Pandey for the STAR Collaboration,

Presented at the 14th International Conference On Ultrarelativistic Nucleus-Nucleus Collisions (QM 99) 10-15 May 1999, Torino, Italy, Nuclear-Physics **A661**, 686-689, (1999).

"The STAR Time Projection Chamber," The STAR Collaboration, K.H. Ackermann et al., Presented at the 14th International Conference On Ultrarelativistic Nucleus-Nucleus Collisions (QM 99) 10-15 May 1999, Torino, Italy, Nuclear-Physics **A661**, 681-685 (1999).

"A Forward TPC for STAR," A. Schuttauf for the STAR Collaboration, Presented at the 14th International Conference On Ultrarelativistic Nucleus-Nucleus Collisions (QM 99) 10-15 May 1999, Torino, Italy, Nuclear-Physics **A661**, 677-680 (1999).

"Recent Developments on the STAR Detector System at RHIC," The STAR Collaboration, H. Wieman, et al., Nucl. Phys. **A638**, 559-564, (1998).

"Directed and Elliptic Flow 158-GeV/nucleon Pb+Pb Collisions, The NA49 Collaboration, H. Appelshäuser, et al., Nucl.Phys. **A638**, 463-466, (1998).

"Phi Emission in Central Pb+Pb Collisions at 158-GeV/u," The NA49 Collaboration, H. Appelshäuser, et al., Nucl.Phys. **A638**, 431-434, (1998).

"Recent Results on Central Pb+Pb Collisions from Experiment NA49," The NA49 Collaboration, H. Appelshäuser, et al., Nucl.Phys. **A638**, 91-102, (1998)

"NA49 Results on Single Particle and Correlation Measurements in Central Pb+Pb Collisions," The NA49 Collaboration, F. Wang, et al., Invited talk at 28th International Symposium on Multiparticle Dynamics, Delphi, Greece, 6-11 Sep 1998.

"Reconstruction Over a Large Rapidity Interval of  $\Lambda$ , Anti- $\Lambda$  and  $K^0_S$  in the NA49 Experiment," The NA49 Collaboration, H. Appelshäuser et al., Presented at the 4th International Conference on Strangeness in Quark Matter (SQM 98), Padova, Italy, 20-24 Jul 1998. J. Phys. **G25**, 469-472 (1999).

" $\Xi^-$  and Anti- $\Xi^+$  Production in Pb + Pb Collisions at 158-GeV per Nucleon," The NA49 Collaboration, J. Bachler et al., 1999, Presented at the 4th International Conference on Strangeness in Quark Matter (SQM 98), Padova, Italy, 20-24 Jul 1998., J. Phys. **G25**, 199-207 (1999).

"A Systematic Study of Two Particle Correlations from NA49 at the CERN SPS," The NA49 Collaboration, R. Ganz for the collaboration, *Proceedings of the 14th International Conference on Ultrarelativistic Nucleus-Nucleus Collisions (QM 99)*, Torino, Italy, 10-15 May 1999 Nucl. Phys. **A661**, 48-451 (1999), e-Print Archive: nucl-ex/9909003

"Collective Transverse Expansion in Central Pb + Pb Collisions at the SPS". The NA49 Collaboration, H. Appelshäuser for the collaboration, Presented at the International School of Nuclear Physics: 20th Course: Heavy Ion Collisions from Nuclear to Quark Matter (Erice 98), Erice, Italy, 17-25 Sep 1998, Part. Nucl. Phys. **42**, 311-312 (1999).

"Centrality Dependence of Directed and Elliptic Flow at the SPS," The NA49 Collaboration, A.M. Poskanzer, et al., *Proceedings of the 14th International Conference on Ultrarelativistic Nucleus-Nucleus Collisions (QM 99)*, Torino, Italy, 10-15 May 1999, Nucl. Phys. **A661**, 341-344 (1999), e-Print Archive: nucl-

ex/9906013

"Two Proton Correlations from Pb + Pb Central Collisions". The NA49 Collaboration, F. Wang for the collaboration, Presented at the 15th Winter Workshop on Nuclear Dynamics, Park City, UT, 9-16 Jan 1999., e-Print Archive: nucl-ex/9903001

"Strangeness Measurements in the NA49 Experiment with Pb Projectiles," The NA49 Collaboration, S. Margetis et al., Presented at the 4th International Conference on Strangeness in Quark Matter (SQM 98), Padova, Italy, 20-24 Jul 1998, J. Phys. **G25**, 189-197 (1999).

"Systematic Study of Hadronic Observables in Nucleus Nucleus Collisions at the CERN SPS". The NA49 collaboration, R. Ganz for the collaboration, *Proceedings of the International Europhysics Conference on High-Energy Physics* (EPS-HEP 99), Tampere, Finland, 15-21 Jul 1999, e-Print Archive: nucl-ex/9909002

"Particle Identification in the NA49 TPCs," The NA49 Collaboration, B. Lasiuk for the collaboration, Presented at the 7th Pisa Meeting on Advanced Detectors: Frontier Detectors for Frontier Physics, La Biodola, Isola d'Elba, Italy, 25-31 May 1997. Nucl. Instrum. Meth. **A409**, 402-406 (1998).

"Performance of the Large Scale TPC System in the CERN Heavy Ion Experiment NA49," The NA49 Collaboration, S. Wenig for the collaboration, Presented at the 7th Pisa Meeting on Advanced Detectors: Frontier Detectors for Frontier Physics, La Biodola, Isola d'Elba, Italy, 25-31 May 1997, Nucl. Instrum. & Meth. **A409**, 100-104 (1998).

"Multiparticle Dynamics of Pb + Pb Collisions at the CERN SPS," The NA49 Collaboration, G. Roland for the collaboration, Presented at the 27th International Symposium on Multiparticle Dynamics (ISMD 97), Frascati, Italy, 8-12 Sep 1997, Phys. Proc. Suppl. **71**, 261-269 (1999).

"Directed and Elliptic Flow in 158-GeV/Nucleon Pb + Pb Collisions," The NA49 Collaboration H. Appelshäuser, et al., 1998, Presented at the 13th International Conference on Ultrarelativistic Nucleus-Nucleus Collisions (Quark Matter 97), Tsukuba, Japan, 1-5 Dec 1997, Nucl. Phys. **A638**, 463-466 (1998).

"HBT Correlations in 158-A/GeV Pb + Pb Collisions," The NA49 Collaboration, R. Ganz et al., Jun 1998. 12pp., *Proceedings of the 2nd Catania Relativistic Ion Studies: Measuring the Size of Things in the Universe: HBT Interferometry and Heavy Ion Physics* (CRIS 98), Acicastello, Italy, 8-12 Jun 1998, Acicastello 1998, *Measuring the size of things in the universe*, 102-113 (1999), e-Print Archive: nucl-ex/9808006

"Overview of Hadronic Observables Measured by NA49 at the CERN/SPS in Central Pb-208 + Pb Collisions at 158-GeV/Nucleon," The NA49 Collaboration, P. Foka for the collaboration, The 29th International Conference on High-Energy Physics (ICHEP 98), Vancouver, British Columbia, Canada, 23-29 Jul 1998. Published in Vancouver 1998, High Energy Physics, v.2, 1491-1496. (1999).

" $\Lambda$  and  $\bar{\Lambda}$  reconstruction in central Pb+Pb collisions using a time projection chamber," The NA49 Collaboration, T. Yates, et al., J.Phys.**G23**,1889-1893, (1997).

" $\Xi$  and  $\Omega$  Production in Pb+Pb Collisions at 158 GeV/c," The NA49 Collaboration, G. Odyniec, et al., J. Phys.**G23**, 1826-1836, (1997).

" $\phi$  Production in 158 GeV/u Pb+Pb-collisions," The NA49 Collaboration, Volker Friese, et al., J.Phys.**G23**, 1837-1843, (1997).

"Kaon,  $\Lambda$  and  $\Lambda$ -bar Production in Pb+Pb-Collisions at 158 GeV per Nucleon," The NA49 Collaboration, Christian Borman, et al., J.Phys.**G23**, 1817-1825, (1997).

"Hadronic Observables at NA49," Brian Lasiuk for the NA49 Collaboration, Acta Physica Slovaca **47**, 27 (1997).

"Progress in Particle Correlation Studies at NA49," Brian Lasiuk and the NA49 Collaboration, Acta Physica Slovaca, **47**, 15 (1997).

" $\Xi$  and  $\Omega$  production in Pb+Pb collisions at 158 GeV/nucleon," The NA49 Collaboration, G. Odyniec, et al, Journal of Physics G (Nuclear and Particle Physics) **23**, 1827-35.(1997).

"Particle correlations in Pb+Pb collisions at the CERN-SPS," The NA49 Collaboration, K. Kadija, et al., *Proceedings of the 28th International Conference on High Energy Physics*, Warsaw, Poland. 947-50 vol.1. World Scientific, Singapore (1997).

"Preliminary results on Pb+Pb collisions from the Grid-TOF data analysed in Budapest," The NA49 Collaboration, T. Alber, et al., Workshop on Strangeness in Hadronic Matter (Strangeness 96), Budapest, Hungary, 15-17 May 1996, Acta Physica Hungarica, New Series, Heavy Ion Physics **4**, 55-62. (1996).

"Kaon production in S+nucleus and Pb+Pb collisions at CERN," The NA49 Collaboration, S. Margetis, et al., Workshop on Strangeness in Hadronic Matter (Strangeness 96), Budapest, Hungary, 15-17 May 1996, Acta Physica Hungarica, New Series, Heavy Ion Physics **4**, 63-9. (1996).

"Strange and nonstrange (anti-) baryon production at 200-GeV per nucleon," Dieter Rohrlich for the NA49 collaboration, Workshop on Strangeness in Hadronic Matter (Strangeness 96), Budapest, Hungary, May, 1996, Heavy Ion Phys. **4** 71-78 (1996); e-Print hep-ex/9607005 .

"Strangeness enhancement in sulphur-nucleus collisions at 200-GeV/N," Juergen Eschke, and the NA35 collaboration, Workshop on Strangeness in Hadronic Matter (Strangeness 96), Budapest, Hungary, May, 1996, Heavy Ion Phys. **4**, 105-116 (1996); e-Print hep-ph/9609242 .

"Stopping and collective effects at SPS energies," The NA49 Collaboration, T. Wienold, et al., Quark Matter 96, Twelfth International Conference on Ultra-Relativistic Nucleus-Nucleus Collisions, Heidelberg, Germany, May, 1996, Nucl. Phys. **A610**, 76c-87c (1996).

"Particle correlations in Pb+Pb collisions at the CERN-SPS - results from the NA49 experiment," The NA49 Collaboration, K. Kadija, et al., Quark Matter 96, Twelfth International Conference on Ultra-Relativistic Nucleus-Nucleus Collisions, Heidelberg, Germany, May, 1996, Nucl. Phys. **A610**, 248c-255c (1996).

"Hadron yields and hadron spectra from the NA49 experiment," The NA49 Collaboration, P. G. Jones, et al. Quark Matter 96, Twelfth International Conference on Ultra-Relativistic Nucleus-Nucleus Collisions, Heidelberg, Germany, May, 1996, Nucl. Phys. **A610**, 188c-199c (1996).



"Recent results from hadronic observables at the CERN SPS," The NA49 collaboration, Proceedings of HIPGAS 96, Wayne State University Detroit, MI, Aug., 1996.

"Progress in particle correlation studies at NA49," The NA49 collaboration, Bull.Am.Phys.Soc. 41, 1234 (1996).

"Progress in particle correlation studies at NA49," The NA49 collaboration, Triangle Meeting, School and Workshop on Heavy Ion Collisions, Bratislava, Slovakia, Sept., 1996.

"Recent results from the N49 lead beam experiment," The NA49 collaboration, contribution to the XXVI Symposium on Multiparticle Dynamics, Faro, Portugal, Sept., 1996.

"First results of the NA49 event-by-event analysis of Pb+Pb collisions at the SPS," The NA49 collaboration, International Workshop XXV on Gross Properties of Nuclei and Nuclear Excitations, Hirschegg, Austria, Jan., 1997.

"Correlations in 158 GeV PB+PB collisions measured by NA49," The NA49 collaboration, contribution to the Workshop on Correlations, Nijmegen, Netherlands, Oct., 1996.

"SControl, an object-oriented program for the slow control of large physics experiments," M. A. Howe, J. G. Cramer, and P. B. Cramer, presented at AIHEN '95 - 4th International Workshop on Software Engineering and Artificial Intelligence for High Energy and Nuclear Physics, Pisa, Italy, April 3-8, 1995, and printed in the Conference Proceedings.

"Recent Results from NA35," M. Gazdzicki and the NA35 Collaboration, invited paper presented at Quark Matter '95, Monterey, CA, January 9-14, 1995, Nucl. Phys. **A590**, 197c-214c (1995).

"First Results from NA49 on Pb+Pb Collisions at 158 GeV/Nucleon," S. Margetis and the NA49 Collaboration, Quark Matter '95, Monterey, CA, January 9-14, 1995, Nucl. Phys. **A590**, 355c-366c (1995).

"Two Pion Interferometry in Central Nucleus-Nucleus Collisions at the CERN SPS - Results from NA35 and NA49", T. Alber for the NA35 and NA49 Collaborations, Quark Matter '95, Monterey, CA, January 9-14, 1995, Nucl. Phys. **A590**, 453c-458c (1995).

"Antibaryon Production in S-Nucleus Collisions at 200 GeV per Nucleon", J. Günther for the NA35 Collaboration, Quark Matter '95, Monterey, CA, January 9-14, 1995, Nucl. Phys. **A590**, 487c-490c (1995).

"Transverse Energy Distributions and Nuclear Stopping in Pb + Pb at 160 GeV per Nucleon", S. Margetis for the NA35 Collaboration presented at Quark Matter '95, Monterey, CA, January 9-14, 1995 and to be printed in the Conference Proceedings.

"Strange particle and anti-proton production in S + nucleus collisions at 200 GeV per nucleon," S. Margetis for the NA35 Collaboration, presented at the 8th Meeting of the Division of Particles and Fields of the American Physical Society, Albuquerque, NM, August 2-6, 1994 and to be printed in the Proceedings.

"Stopping and Two pion Bose-Einstein correlation results from CERN experiment NA35', J. T. Mitchell for the NA35 Collaboration, presented at the 8th Meeting of the Division of Particles and Fields of the American Physical Society, Albuquerque, NM, August 2-6, 1994 and to be printed in the Proceedings.

"Transverse momentum dependence of Bose-Einstein correlations in 200A GeV/c S + A collisions," R. J. Morse for the NA35 Collaboration, presented at the 5th Conference on the Intersection of Particle and Nuclear Physics, St. Petersburg, FL, May 31 - June 6, 1994 and to be printed in the Proceedings.

"Hadron production in S + nucleus collisions at 200 GeV/nucleon," S. Margetis for the NA35 Collaboration, presented at the 10th Winter Workshop on Nuclear Dynamics, Snowbird, Utah, Jan. 15-22, 1994, and be printed in the Proceedings.

"Bose-Einstein Correlations in nuclear collisions at 200 GeV/nucleon," Daniel Ferenc and the NA35 Collaboration, invited paper presented at the XXIXth Recontres de Moriond, QCD and High Energy Hadronic Interactions, March 19-26, 1994, Meribel, France, printed in the Proceedings.

"The STAR Experiment at the Relativistic Heavy ion Collider," J. W. Harris for the STAR Collaboration, invited paper presented at Quark Matter-93, Borlange, Sweden, June 20-24, 1993, published in Nucl. Phys. **A566** 35c (1994).

"Hadron production in S + Ag and S + Au collisions at 200 GeV/nucleon," D. Roehrich et al. (The NA35 Collaboration), invited paper presented at Quark Matter-93, Borlange, Sweden, June 20-24, 1993, published in Nucl. Phys. **A566** 35c (1994).

"Charged hadron distributions in 200 GeV/A S + Au collisions: a look at stopping," J. Mitchell et al. (The NA35 Collaboration), contributed paper presented at Quark Matter-93, Borlange, Sweden, June 20-24, 1993, published in Nucl. Phys. **A566** 415c (1994).

"New data on the strangeness enhancement in central nucleus-nucleus collisions at 200-GeV-A," M. Gazdzicki et al. (The NA35 Collaboration), contributed paper presented at Quark Matter-93, Borlange, Sweden, June 20-24, 1993, published in Nucl. Phys. **A566** 503c (1994).

"Rapidity and transverse momentum dependence of the two pi- correlation function in 200-GeV/nucleon S + nucleus collisions," G. Roland et al. (The NA35 Collaboration), contributed paper presented at Quark Matter-93, Borlange, Sweden, June 20-24, 1993, published in Nucl. Phys. **A566** 527c (1994).

"A study of the correlation integrals in proton-nucleus and nucleus-nucleus collisions," B. Wosiek et al. (The NA35 Collaboration), contributed paper presented at Quark Matter-93, Borlange, Sweden, June 20-24, 1993, published in Nucl. Phys. **A566** 593c (1994).

"Time Projection Chambers in NA35 and NA49," P. Jacobs for the NA35 and NA49 Collaborations, presented at the Winter Workshop on Nuclear Dynamics, Key West, FL, Jan. 31-Feb. 5, 1993, published in Proceedings, Advances in Nuclear Dynamics, 217-223 (1994).

"The STAR Experiment at the Relativistic Heavy ion Collider," J. W. Harris for the

STAR Collaboration, invited paper presented at the 2nd International Conference on the Physics and Astrophysics of the Quark-Gluon Plasma, Calcutta, India, January 19-23, 1993, and published in the Proceedings.

"Relativistic Heavy Ion Collider: Physics and the STAR Experiment," J. W. Harris for the STAR Collaboration, invited paper presented at the International Seminar on High-Energy-Physics Problems: Relativistic Nuclear Physics and Quantum Chromodynamics, Dubna, Russia, Sept. 7-12, 1992, and published in the Proceedings.

"Physics of the STAR Experiment at the Relativistic Heavy Ion Collider," J. W. Harris for the STAR Collaboration, invited paper presented at the 8th Winter Workshop on Nuclear Dynamics, Jackson Hole, WY, January 18-24, 1992, and published in the Proceedings.

"Recent Results from Experiment NA35," P. Seyboth and the NA35 Collaboration, Nuclear Physics **A544**, 293c (1992).

"Pion Interferometry in Ultra-Relativistic Nuclear Collisions," D. Ferenc and the NA35 Collaboration, Nuclear Physics **A544**, 531c (1992).

"Production of Charged Kaons in Central S + S and O + Au Collisions at 200 GeV/Nucleon," M. Kawolski and the NA35 Collaboration, Nuclear Physics **A544**, 609c (1992).

"Concept for an Experiment on Particle and Jet Production at Midrapidity," Fourth Workshop on Experiments and Detectors for a Relativistic Heavy Ion Collider, BNL 52262, 121-141 (1990).

"The University of Washington Superconducting Booster Linac," *Proceedings of the 1985 Particle Accelerator Conference, Vancouver, BC*, IEEE Transactions on Nuclear Science NS-32, #5, 3262 (1985).

"Status of the University of Washington Superconducting Booster," *Proceedings of the 1985 SNEAP Meeting, Argonne National Laboratory*, October, 1985.

"The University of Washington Superconducting Booster Project," *Proceedings of the 6th Tandem Conference*, Chester, England, 18-22 April, 1983, Nuclear Instruments and Methods **220**, 204 (1984).

"High Precision Measurements of the Nuclear Stratosphere with Far Sub-Coulomb Heavy Ion Scattering," *Proceedings of the International Conference on Heavy-Ion Physics and Nuclear Physics*, Catania, Italy, 21-26 March, 1983, Ed.: C. Villi, North Holland, Amsterdam, (1984).

"Elastic and Inelastic Scattering of Polarized Protons through Isobaric Analog Resonances in  $^{207}\text{Bi}$  and  $^{209}\text{Bi}$ ," *Proceedings of the Fifth International Symposium on Polarization Phenomena in Nuclear Physics*, Santa Fe, New Mexico, 11-15 August, 1980, Paper #2.40, Eds.: G. G. Ohlsen, R. E. Brown, N. Jarmie, W. W. McNaughton, and G. M. Hale, American Inst. of Physics, New York, (1980).

"The Transition from Light to Heavy Ions," *Proceedings of the International Symposium on Nuclear Physics at Cyclotron Energies*, Calcutta, 14-16 Sept., 1977, p. 91, B.A.R.C., Bombay (1979).

"Large Angle Oscillations in Heavy Ion Elastic Scattering and Continuum VMI

Rotational Band Structures,"*Proceedings of Symposium on Heavy Ion Elastic Scattering*,Ed.: R. M. DeVries, University of Rochester, Rochester, NY (1977).

"Relativistic Coulomb Effects in Pion Scattering,"*Proceedings of VIth International Conference on High Energy Physics and Nuclear Structure*,Zürich, 8-9/77, Switzerland (1977).

"Depolarization in the Elastic Scattering of 17 MeV Protons from  $^{9}\text{Be}$ ," *Proceedings of the 4th International Symposium on Polarization Phenomena in Nuclear Reactions*, Zürich, 9/75, p. F30, Eds.: Gruebler and W. Koenig; Birkhaeuser Verlag, Basel (1976).

"Analyzing Power in the  $^{206}\text{Pb}(\text{vecp},\text{p}0)$  Reaction near the  $3\text{p}_{\frac{3}{2}}$  Isobaric Analog Resonance," *Proceedings of the 4th International Symposium on Polarization Phenomena in Nuclear Reactions*, Zürich, 9/75, p. L17, Eds.: W. Gruebler and W. Koenig; Birkhaeuser Verlag, Basel (1976).

"Analyzing Power for Proton Elastic Scattering from  $^{206}\text{Pb}$  near the Low Lying Isobaric Analog Resonances,"*Proceedings of the 4th International Symposium on Polarization Phenomena in Nuclear Reactions*, Zürich, 9/75, p. L19, Eds.: W. Gruebler and W. Koenig; Birkhaeuser Verlag, Basel (1976).

"Optical Potentials for Heavy Ion Scattering and Reactions,"*Proceedings of the International Conference on Reactions Between Complex Nuclei*, Nashville, Tennessee, 6/74, p. 16, Eds.: R. L. Robinson, F. K. McGowan, J. B. Ball, and J. H. Hamilton; North Holland, Amsterdam (1974).

"The Importance of Coulomb Interaction Potentials in Heavy Ion DWBA Calculations," *Proceedings of the International Conference on Reactions Between Complex Nuclei*, Nashville, Tennessee, 6/74, p. 61, Eds.: R. L. Robinson, F. K. McGowan, J. B. Ball, and J. H. Hamilton; North Holland, Amsterdam (1974); [Selected for oral presentation].

"On the Reaction Mechanism of Alpha-Transfer Reactions: A Study of  $^{24,26}\text{Mg}(\text{ }^{12}\text{C}, \text{ }^{8}\text{Be})\text{ }^{28,30}\text{Si}$ ," *Proceedings of the International Conference on Reactions Between Complex Nuclei*,Nashville, Tennessee, 6/74, p. 95, Eds.: R. L. Robinson, F. K. McGowan, J. B. Ball, and J. H. Hamilton; North Holland, Amsterdam (1974).

"Measurement and Global Analysis of Heavy Ion Elastic Scattering from s-d and f-p Shell Nuclei, *Proceedings of the International Conference on Nuclear Physics*, Eds.: J. deBoer and H. J. Mang, München, 9/73, p. 342; North Holland, Amsterdam (1973).

"A New Method of Spin Determinations Using Heavy Ions,"*Proceedings of the International Conference on Nuclear Physics*,Eds.: J. deBoer and H. J. Mang, München, 9/73, p. 410; North Holland, Amsterdam (1973); [selected for oral presentation].

"Investigations of the "Alpha-Transfer" Reaction ( $^{12}\text{C},\text{ }^{8}\text{Be}$ ) on Light and Medium Weight Target Nuclei,"*Proceedings of the International Conference on Nuclear Physics*,Eds.: J. deBoer and H. J. Mang, München, 9/73, p. 483; North Holland, Amsterdam (1973).

"The University of Washington Lamb-Shift polarized Ion Source,"*Proceedings of the 3rd International Symposium on Polarization Phenomena in Nuclear Reactions*,

Eds.: H. H. Barschall and W. Haeberli, Madison, Wisconsin (8/31/70 to 9/4/70), p. 832, Univ. of Wisconsin Press, Madison (1971).

"Energy Dependence of the Phase Rule in  $^{24}\text{Mg}(\alpha,\alpha')$  Scattering," *Proceedings of the International Conference on Nuclear Physics*, Eds.: R. L. Becker, C. D. Goodman, P. H. Stelson, and A. Zucker, Gatlinburg, Tennessee (9/12/66 to 9/17/66), p. 148, Academic Press, New York (1967).

"Angular Correlation Studies of the Inelastic Scattering of Alpha Particles from  $^{12}\text{C}$ ,  $^{24}\text{Mg}$ ,  $^{28}\text{Si}$ , and  $^{56}\text{Fe}$ ," *Nuclear Spectroscopy with Direct Reactions; II. Proceedings*, Ed.: F. E. Thow, Argonne National Laboratory, Argonne, Illinois (3/9/64 to 3/11/64), p. 153, Publication ANL-6878 (1964).

"Angular Momentum Selection and Angular Correlations in Direct Reactions with Strongly Absorbed Particles," *Nuclear Spectroscopy with Direct Reactions; II. Proceedings*, Ed.: F. E. Thow, Argonne National Laboratory, Argonne, Illinois (3/9/64 to 3/11/64), p. 147, Publication ANL-6878 (1964).

"An Integrated Computer-Analyzer System with Real-Time Reduction of Multiparameter Data," *Proceedings of the International Symposium on Nuclear Electronics*, Paris (1963).

## Abstracts of Contributed Papers

*(Note: Many more such abstracts form STAR and NA49, but none later than 2004 listed here in the interest of brevity.)*

"Pion Phase Space Density from STAR HBT Analysis," John G. Cramer for the STAR Collaboration, poster presented at the Quark Matter 2001, SUNY Stony Brook, NY, January 14-19, 2001.

"First Results from HBT Interferometry with STAR data from RHIC," John G. Cramer for the STAR Collaboration, *Bull.Am.Phys.Soc.* **45**, #5, 46 (2000).

"Charged Hadron Spectra with the STAR Detector at RHIC," Manuel Calderón de la Barca Sánchez for the STAR Collaboration, *Bull.Am.Phys.Soc.* **45**, #5, 71 (2000).

"First Results from Event-by-Event Analysis with STAR," Jeffrey G. Reid for the STAR Collaboration, *Bull.Am.Phys.Soc.* **45**, #5, 71 (2000).

"Preliminary elliptic flow results at  $\sqrt{s} = 130$  AGeV measured with STAR," Raimond Snellings, Art Poskanzer, and Sergei Voloshin for the STAR Collaboration, *Bull.Am.Phys.Soc.* **45**, #5, 71 (2000).

"Particle Ratios From the  $\sqrt{s}=130$  AGeV Au+Au Collisions," Nu Xu for the STAR Collaboration, *Bull.Am.Phys.Soc.* **45**, #5, 72 (2000).

"Experimental Aspects of Determining DG from Direct Photon + Jet Events in Polarized pp Collisions Using the STAR Detector at RHIC," Chris Allgower for the STAR Collaboration, *Bull.Am.Phys.Soc.* **45**, #5, 74 (2000).

"The STAR Spin Physics Program," L.C. Bland for the STAR Collaboration, *Bull.Am.Phys.Soc.* **45**, #5, 74 (2000).

"Transversity measurement with STAR at RHIC," Akio Ogawa for the STAR Collaboration, Bull.Am.Phys.Soc. **45**, #5, 74 (2000).

"The STAR Barrel Electromagnetic Calorimeter," Subhasis Chattopadhyay for the STAR Collaboration, Bull.Am.Phys.Soc. **45**, #5, 84 (2000).

"First look at strangeness at RHIC with the STAR detector," Hui Long for the STAR Collaboration, Bull.Am.Phys.Soc. **45**, #5, 84 (2000).

"First Results from RHIC: Silicon Drift Detector Accomplishments and Future Goals," Robert Willson for the STAR Collaboration, Bull.Am.Phys.Soc. **45**, #5, 85 (2000).

"The STAR-RICH Detector at RHIC," Brian Lasiuk for the STAR Collaboration, Bull.Am.Phys.Soc. **45**, #5, 85 (2000).

"Prospects for resonance studies at STAR," Zhangbu Xu for the STAR Collaboration, Bull.Am.Phys.Soc. **45**, #5, 85 (2000).

"Parity and Time Reversal Violation Studies at STAR," Evan Finch for the STAR Collaboration, Bull.Am.Phys.Soc. **45**, #5, 85 (2000).

"The Coherent Photon and Pomeron Physics Program at STAR," Janet Seger for the STAR Collaboration, Bull.Am.Phys.Soc. **45**, #5, 85 (2000).

"Electromagnetic Calorimeter for the STAR Detector," T. Ngo and H. Huang for the STAR Collaboration, Bull.Am.Phys.Soc. **45**, #5, 25 (2000).

"Collective Radial Flow in Heavy Ion Collisions at RHIC," D. T. Brown and N. Xu for the STAR Collaboration, Bull.Am.Phys.Soc. **45**, #5, 18 (2000).

"A Transactional Analysis of Quantum Interaction-Free Measurements," John G. Cramer, Poster presented at the Long Beach APS Meeting, Bull.Am.Phys.Soc. **45**, #2, 62 (2000).

"Hardware Performance of the STAR TPC," Michael Anderson for the STAR Collaboration, Bull.Am.Phys.Soc. **45**, #2, 75 (2000).

"STAR TPC Data Analysis Results," Eric Hjort for the STAR Collaboration, Bull.Am.Phys.Soc. **45**, #2, 75 (2000).

"Optical System of the STAR Barrel Electromagnetic Calorimeter," O.A. Grachov for the STAR Collaboration, Bull.Am.Phys.Soc. **45**, #2, 75 (2000).

"Status of the EMC Level 0 Trigger," A. M. Vander Molen and The STAR Collaboration, Bull.Am.Phys.Soc. **44**, 1411 (1999).

"Coherent Photon and Pomeron Physics with STAR at RHIC," A. Ogawa and The STAR Collaboration, Bull.Am.Phys.Soc. **44**, (1999).

"Measuring Anti-Nuclei at RHIC Using the STAR Detector," D. Hardtke, J. Marx, H. Matis, H. Crawford, J. Engelage, E. Judd, R. Longacre and The STAR Collaboration, Bull.Am.Phys.Soc. **44**, (1999).

"Prospects for Rare Particle Searches Using the STAR Detector," D. Hardtke, J. Marx, H. Matis, H. Crawford, J. Engelage, E. Judd, and The STAR Collaboration,

Bull.Am.Phys.Soc. **44**, 1531 (1999).

"The Year One Physics Capabilities of STAR," H. Caines and The STAR Collaboration, Bull.Am.Phys.Soc. **44**, 1627 (1999).

"Measuring DG via Direct-g Production with STAR," J. Balewski and The STAR Collaboration, Bull.Am.Phys.Soc. **44**, 632 (1999).

"'Day 1' Physics with STAR," J. Harris and The STAR Collaboration, Bull.Am.Phys.Soc. **44**, 633 (1999).

"Can HBT Parameters Reflect the Initial Pressure Gradient Difference in Non-Central Heavy Ion Collisions?," J. Yang, D. Olson, N. Xu and The STAR Collaboration, Bull.Am.Phys.Soc. **44**, (1999).

"High-pt Physics with the STAR Experiment at RHIC," K. Turner and The STAR Collaboration, Bull.Am.Phys.Soc. **44**, 1149 (1999).

"Expected Trigger Rates of High pt Jets and Direct Photons in the STAR EMC," M. Belt Tonjes and The STAR Collaboration, Bull.Am.Phys.Soc. **44**, 1150 (1999).

"The STAR Level 3 Trigger," P. Yepes, The STAR Collaboration and STAR Level 3 Collaboration, Bull.Am.Phys.Soc. **44**, 1411 (1999).

"Detecting Doubly Strange Dibaryon Resonances with the STAR Detector," R. L. Ray, G. W. Hoffmann, J.-L. Tang, T. Udagawa, S. D. Paganis, R. S. Longacre and The STAR Collaboration, Bull.Am.Phys.Soc. **44**, (1999).

"Exploring Jet Fragmentation Function Modification in Heavy Ion Collisions at RHIC Using Two Pion Angular Correlations," R. Longacre and The STAR Collaboration, Bull.Am.Phys.Soc. **44**, (1999).

"Silicon Drift Detector Capabilities at STAR," R. Wilson and The STAR-SVT Collaboration, Bull.Am.Phys.Soc. **44**, (1999).

"Approximate 3-Body Coulomb Corrections for HBT Interferometry," J. G. Cramer, V. Efimov, and V. E. Sacksteder IV, Bull.Am.Phys.Soc. **38**, 1810 (1993).

"Natural Wormholes as Gravitational Lenses," J. G. Cramer, M. Visser, M. S. Morris, R. W. Forward, G. Benford, and G. A. Landis, poster presented at the 17th "Texas" Symposium on Relativistic Astrophysics, Munich, Germany, December 12-16, 1994.

"Limits on Color van de Waals Forces," W. G. Lynch, M. B. Tsang, D. Fox, J. G. Cramer, S. Gill, and R. Loveman, Bull.Am.Phys.Soc. **38**, 1824 (1993).

"Analytic Relations for Pion and Kaon Source Sizes from HBT Correlation Widths," contribution to the *9th International Conference on Ultra-Relativistic Nucleus-Nucleus Collisions*, Gatlinburg, TN, November 11-15, 1991.

"Nuclear Rainbow Scattering in  $^6\text{Li} + ^{12}\text{C}$  at 14.5 MeV/Nucleon," Bull.Am.Phys.Soc. **36**, 1272 (1991).

"Energy Dependence of the Heavy Ion Total Reaction Cross Section of  $^{12}\text{C}$  with  $^{12}\text{C}$ ,  $^{40}\text{Ca}$ ,  $^{90}\text{Zr}$  and  $^{208}\text{Pb}$ ," Bull.Am.Phys.Soc. **30**, 1246 (1985).

"Potential Determination from Nuclear Rainbow Scattering in  $^{12}\text{C} + ^{13}\text{C}$  at 20 MeV/N," Verh. Dtsch. Phys. Ges. **19**, 933 (1984).

"Relativity, Nuclear Polarizability, Atomic Screening, and Vacuum Polarization in Sub-Coulomb Heavy Ion Elastic Scattering," Bull. Am. Phys. Soc. **26**, 553 (1981).

"Deviations from Rutherford Scattering with Sub-Coulomb Heavy Ions," Bull. Am. Phys. Soc. **26**, 554 (1981).

"Elastic and Inelastic Scattering of Polarized Protons from  $^{206}\text{Pb}$  and  $^{208}\text{Pb}$ ," Bull. Am. Phys. Soc. **25**, 520 (1980).

"Nucleus-Nucleus Total Reaction Cross Sections and the Geometrical Limit," Bull. Am. Phys. Soc. **25**, 506 (1980).

"Relativistic Coulomb Effects in Heavy Ion Elastic Scattering," Bull. Am. Phys. Soc. **24**, 843 (1979).

"Detection of Linear Polarization of X-rays and Gamma-Rays Using Pulse Rise Time," Bull. Am. Phys. Soc. **24**, 823 (1979).

" $^{180}\text{O}$  Excitation Functions for the Elastic Scattering of  $^{32}\text{S}$  on  $^{12}\text{C}$ ," Bull. Am. Phys. Soc. **23**, 941 (1979).

"Gamma Ray Yields following the  $^{13}\text{C} + ^{16}\text{O}$  and  $^{12}\text{C} + ^{18}\text{O}$  Reactions," Bull. Am. Phys. Soc. **23**, 933 (1978).

"Evidence for a Continuum VMI Rotational Band from Large-Angle Oscillations in  $^{16}\text{O} + ^{28}\text{Si}$  Elastic Scattering," Bull. Am. Phys. Soc. **22**, 1002 (1977).

"A Possible Method of Distinguishing between Stars and Galaxies Composed of Matter and Antimatter," Bull. Am. Phys. Soc. **22**, 538 (1977).

" $^6\text{Li}$ : A Light Heavy Ion or a Heavy Light Ion?," Bull. Am. Phys. Soc. **21**, 554 (1976).

"Evidence for Shallow, Very Strongly Absorbing Heavy Ion Optical Potentials," Bull. Am. Phys. Soc. **21**, 64 (1976).

"Tests of the Sensitivity of the Heavy Ion Optical Model to Details of the Nuclear Potential," Bull. Am. Phys. Soc. **20**, 1159 (1975).

"( $^{12}\text{C}, ^8\text{Be}$ )-Reaktionen an  $^{24}\text{Mg}$  und  $^{26}\text{Mg}$ ," DPG(VI)**9**, 87 (1974).

"( $^{12}\text{C}, ^8\text{Be}$ ); A New Alpha Transfer Reaction?," Bull. Am. Phys. Soc. **19**, 989 (1974).

"Application of Non-Local Optical Potentials to the Analysis of Heavy Ion Scattering," Bull. Am. Phys. Soc. **19**, 1015 (1974).

"A Comparison between  $^{16}\text{O}$  Scattering and  $^{15}\text{N}$ ,  $^{17}\text{O}$  Scattering from  $^{28}\text{Si}$ ," Bull. Am. Phys. Soc. **19**, 1015 (1974).

"Scattering of  $^{16}\text{O}$  Ions from  $^{28}\text{Si}$ ,  $^{59}\text{Co}$ , and  $^{60}\text{Ni}$  at 142 MeV," Bull. Am. Phys. Soc. **19**, 1015 (1974).



"Are Heavy Ion Optical Potentials Non-Local?," *Symposium on the Classical and Quantum Mechanical Aspects of Heavy Ion Collisions*, Heidelberg, Germany (1974).

"A Unique Energy-Independent Optical Potential for  $^{16}\text{O} + ^{28}\text{Si}$  Elastic Scattering," *Symposium on the Classical and Quantum Mechanical Aspects of Heavy Ion Collisions*, Heidelberg, Germany (1974).

" $^{16,18}\text{O}$  Elastic Scattering on  $^{58}\text{Ni}$ ," *Bull. Am. Phys. Soc.* **19**, 503 (1974).

"Elastic Scattering of Polarized Protons from  $^{206}\text{Pb}$ ," *Bull. Am. Phys. Soc.* **19**, 478 (1974).

"Recoil?," *Bull. Am. Phys. Soc.* **18**, 1415 (1973).

"Elastic and Inelastic Scattering of  $^{16}\text{O}$  from  $^{26}\text{Mg}$ ,  $^{27}\text{Al}$ , and  $^{28}\text{Si}$ ," *Bull. Am. Phys. Soc.* **18**, 600 (1973).

"A Comparison of the  $^6\text{Li}(^6\text{Li}, ^6\text{Li}^*(3.56))^6\text{Li}^*(3.56)$  and the  $^6\text{Li}(^6\text{Li}, ^6\text{He})^6\text{Be}$  Reactions as a Study of Charge Dependence," *Bull. Am. Phys. Soc.* **17**, 920 (1972).

"Investigation of the Transfer Reactions ( $^{12}\text{C}, ^8\text{Be}$ ) and ( $^{12}\text{C}, ^8\text{Be}^*$ )," *Bull. Am. Phys. Soc.* **17**, 920 (1972).

"The ( $^{12}\text{C}, ^8\text{Be}$ ) Reaction on  $^{28}\text{Si}$ ,  $^{40}\text{Ca}$ ,  $^{54}\text{Fe}$ , and  $^{58}\text{Ni}$  Targets," *Bull. Am. Phys. Soc.* **17**, 920 (1972).

"Spin Determinations with  $\alpha$ -Heavy-Ion Angular Correlations following Transfer Reactions," *Bull. Am. Phys. Soc.* **17**, 921 (1972).

"Four-Nucleon Transfer from  $^{16}\text{O}$  to  $^{90}\text{Zr}$  Near the Coulomb Barrier," *Bull. Am. Phys. Soc.* **17**, 913 (1972).

"A Comparison of the  $^6\text{Li}(^6\text{Li}, ^6\text{He})^6\text{Be}$  and the  $^6\text{Li}(^6\text{Li}, ^6\text{Li}^*_{T=1})^6\text{Li}^*_{T=1}$  Charge Exchange Reactions," *Bull. Am. Phys. Soc.* **17**, 76 (1972).

"Polarization Effects in the Isospin Coupled Reaction Channels  $p + ^{91}\text{Zr}$  and  $n + ^{91}\text{Nb}^*$ ," *Bull. Am. Phys. Soc.* **16**, 1174 (1971).

"Spin Flip Probability in the Elastic Scattering of  $^3\text{He}$  from  $^{24}\text{Mg}(1.36 \text{ MeV}, 2^+)$ ," *Bull. Am. Phys. Soc.* **16**, 830 (1971).

"Polarized Excitation Function Studies of Isospin-Forbidden Resonances in Light Nuclei using a Polarized Proton Beam," *Bull. Am. Phys. Soc.* **16**, 829 (1971).

"A Single-Wire Position-Sensitive Proportional Counter for Magnetic Spectrograph Readout," *Bull. Am. Phys. Soc.* **16**, 581 (1971).

"A Comparison of the  $^6\text{Li}(^6\text{Li}, ^6\text{He}_{\text{g.s.}})^6\text{Be}_{\text{g.s.}}$  and the  $^6\text{Li}(^6\text{Li}, ^6\text{Li}^*_{3.56 \text{ MeV}})^6\text{Li}^*_{3.56 \text{ MeV}}$  Reactions," *Bull. Am. Phys. Soc.* **16**, 488 (1971).

"Singlet Deuteron Enhancement from a Comparison of the Reaction  $^6\text{Li}(d, pn)^6\text{Li}^*$  at 2.18 and 3.56 MeV," *Bull. Am. Phys. Soc.* **15**, 519 (1970).

"A Test of the Isospin Quantum Numbers of the  $^{12}\text{C}(\alpha, d)^{14}\text{N}$  Reaction," *Bull.*

Am. Phys. Soc. **14**, 1220 (1969).

"Isospin Coupling in  $^{94}\text{Zr} + p$  and  $^{98,100}\text{Mo} + p$  Reactions," Bull. Am. Phys. Soc. **14**, 1216 (1969).

"Charge Exchange Effects in Proton-Induced Reactions on  $^{208}\text{Pb}$ ," Bull. Am. Phys. Soc. **14**, 590 (1969).

"Isobaric Analog Resonances in the  $^{205}\text{Tl}(d,p)^{206}\text{Tl}$  Reaction," Bull. Am. Phys. Soc. **14**, 589 (1969).

"Isospin Coupling in  $^{98}\text{Mo}(p,d)$  and  $^{98}\text{Mo}(p,t)$  Reactions," Bull. Am. Phys. Soc. **14**, 120 (1969).

"A Comparison of  $1^-$  Neutron Particle-Hole States in Even Lead Isotopes populated by Proton Decay of Analog Resonances," Bull. Am. Phys. Soc. **13**, 1404 (1968).

"Identification of  $1^-$  Neutron Particle-Hole States in  $^{140}\text{Ce}$ ," Bull. Am. Phys. Soc. **13**, 658 (1968).

"Identification of  $1^-$  Neutron Particle-Hole States in  $^{208}\text{Pb}$ ," Bull. Am. Phys. Soc. **13**, 656 (1968).

"A Search for Singlet Deuterons in the Reaction  $^{12}\text{C}(\alpha pn)^{14}\text{N}^*$ ," Bull. Am. Phys. Soc. **12**, 1198 (1967).

"Study of the Spectroscopic Factors between 6 and 11 MeV," Bull. Am. Phys. Soc. **12**, 922 (1967).

"Proton Spin Flip in the Reaction  $^{58}\text{Ni}(p,p')^{58}\text{Ni}^*(1.45)$  at 15.0 MeV," Bull. Am. Phys. Soc. **12**, 921 (1967).

"Inelastic Alpha Scattering on Silicon Isotopes," Bull. Am. Phys. Soc. **12**, 913 (1967).

"Proton Spin-Flip Measurements on a  $d_{3/2}$  Analog Resonance in  $^{91}\text{Nb}$ ," Bull. Am. Phys. Soc. **12**, 527 (1967).

"Energy dependence of the Phase Rule in  $^{24}\text{Mg}(\alpha,\alpha')$  Scattering," Bull. Am. Phys. Soc. **11**, 908 (1966).

"Proton Spin Flip in Inelastic Scattering leading to the First Excited States of Nickel Isotopes," Bull. Am. Phys. Soc. **11**, 751 (1966).

"Proton Spin Flip in the Reaction  $^{60}\text{Ni}(p,p')^{60}\text{Ni}^*(1.33)$  at 10.5 and 14.0 MeV," Bull. Am. Phys. Soc. **11**, 100 (1966).

"Proton Spin Flip in the Reaction  $^{12}\text{C}(p,p')^{12}\text{C}^*(4.43)$  from 12 to 15 MeV," Bull. Am. Phys. Soc. **11**, 99 (1966).

"Design Study for a Multi-Parameter Analysis System," Bull. Am. Phys. Soc. **9**, 488 (1964).

"Angular Correlation Studies of the Reaction  $^{12}\text{C}(\alpha,\alpha')^{12}\text{C}^*(\alpha_{-b})^{8}\text{Be}$ ," Bull. Am. Phys. Soc. **9**, 407 (1964).

"Nuclear Polarization of  $^{12}\text{C}$ ,  $^{24}\text{Mg}$ , and  $^{56}\text{Fe}$  Produced by the Inelastic Scattering of Alpha Particles," Bull. Am. Phys. Soc. **9**, 418 (1964).

"Angular Correlations with Strongly Absorbed Particles," Bull. Am. Phys. Soc. **9**, 505 (1964).

"Elastic and Inelastic Scattering of Alpha Particles from  $^{16}\text{O}$ ,  $^{24}\text{Mg}$ , and  $^{28}\text{Si}$ ," Bull. Am. Phys. Soc. **8**, 317 (1963).

" $\alpha$ - $\gamma$  Angular Correlations in the  $^{28}\text{Si}(\alpha, \alpha'\gamma)$  Reaction," Bull. Am. Phys. Soc. **8**, 47 (1963).

"Measurement and Analysis of High-Energy Beta Spectra of Light Elements," Bull. Am. Phys. Soc. **5**, 101 (1960).

## Popular-Level Science Publications

"The Alternate View" is a bimonthly science column about 2000 words in length. These columns have appeared regularly in *Analog Science Fiction/Science Fact Magazine*, Dell Publications, New York, during the period 1984-2001, and 108 columns have now been written and published. Reprints of these columns are available on the web at the URL:

<http://www.npl.washington.edu/av>.

Here is a list of issues of *Analog Science Fiction/Science Fact Magazine* containing these columns, with the title of the Alternate View column that appeared in each issue.

Issue	Column Title
07/84	The Alternate Who???? (Introduction)
07/84	When Proton Meets Monopole (Monopole Catalysis)
09/84	Other Universes I (GUTS Cosmology)
11/84	Other Universes II (Everett-Wheeler Interp. of QM)
13/84	The Retarding of Science (Humor)
02/85	The Dark Side of the Force of Gravity (Dark Matter)
04/85	The Other 40 Dimensions (Klein-Kalusa)
06/85	Light in Reverse Gear I (4-Wave Mixer)
08/85	Light in Reverse Gear II (Advanced Radiation)
10/85	In The Fullness of Time (Universe in far future)
12/85	Antimatter in a Trap (Penning Traps)
01/86	The Pump of Evolution (Fermi Paradox)
03/86	Children of the Swan (Cygnus X-3 particles)
05/86	Neutrinos and WIMPs (Solar Neutrinos)
07/86	Antigravity I: Negative Mass (Gravitation of neg mass)
09/86	Antigravity II: A Fifth Force? (Hyperforce)
11/86	The Quantum Handshake (Transactional Interp. of QM)
13/86	Super Atoms and Super Fields (Positrons from $Z > 173$ )
02/87	Artificial Gravity: Which way is Up? (Centrifugal)
04/87	Strings and Things (Cosmic Strings)
06/87	Recent Results (Review of past AV Columns)
08/87	Laser Propulsion and the Four P's
10/87	Warm Superconductors
12/87	Supernova 1987A

01/88 Spiral Galaxies and Antigravity Beams (Gravity Waves)  
 03/88 The Coming of the SSC (Superconducting Supercollider)  
 05/88 Watching The Quantum Jump (Exciting Single Atoms)  
 07/88 Dinosaur Breath (Cretaceous Air in Amber)  
 09/88 Paradoxes and FTL Communication (Calcutta paradox)  
 11/88 The Rainbows of Gravity (Einstein's ring)  
 13/88 Dyson on Space (Freeman Dyson's views on space prog.)  
 02/89 Supernova Duds and Toothpaste (Neutrinos and fluorine)  
 04/89 Falling through to Pelucidar (Shadow matter)  
 06/89 Wormholes and Time Machines (General relativity and FTL)  
 08/89 The Mouse that Boomed (fast radio-astronomy object)  
 10/89 Report on Nanocon 1 (First Nanotechnology Conference)  
 12/89 Cold Fusion, Pro-fusion, and Con-fusion (Pons & Co.)  
 01/90 Einsteins' Spooks & Bell's Theorem (EPR & nonlocality)  
 03/90 The Twin Paradox Revisited (Special Relativity)  
 05/90 Wormholes II: Getting There in No Time (WH as starships)  
 07/90 Telepresence: Reach Out and Grab Someone  
 09/90 The Rise and Fall of Gyro-Gravity  
 11/90 A Visit to Virtual Seattle (Virtual reality)  
 13/90 FTL Photons (The Casimir Effect and the Speed of Light)  
 02/91 Mega-Projects & -Problems; The Hubble in Trouble  
 04/91 Quantum Time Travel  
 06/91 RHIC: Big Bangs in the Lab  
 08/91 Cosmic Voids and Great Walls  
 10/91 Quantum Telephones to Other Universes, to Times Past  
 12/91 Heavy Neutrinos: Who Ordered That?  
 01/92 Killer Asteroids and You  
 03/92 Harnessing the Butterfly - The Steering of Chaos  
 05/92 CERN and the LHC  
 07/92 Natural Wormholes: Squeezing the Vacuum  
 09/92 Neutrino Physics: Curiouser and Curiouser  
 11/92 Centrifugal Forces and Black Holes  
 13/92 Nuke Your Way to the Stars  
 02/93 Neutrinos, Ripples, and Time Loops  
 04/93 Science and SF in Japan  
 06/93 DUMAND: Neutrinos from Beneath the Ocean  
 08/93 Science Policy: The Parable of the King and the Grain  
 10/93 The Tachyon Drive:  $V_{ex} = \text{inf}$  and  $E_{ex} = 0$ .  
 12/93 The Quantum Physics of Teleportation  
 01/94 The Force of the Tide  
 03/94 The Bandwidth Revolution: Internet and WorldWideWeb  
 05/94 Searching for MACHOs (massive compact halo objects)  
 07/94 News from CyberSpace: Virtual Reality and HyperText  
 09/94 Beauty and the B-Factory (B mesons and matter)  
 11/94 Stretch Marks on the Universe (Quantized Redshift)  
 13/94 NASA Goes FTL - Part 1: Wormhole Physics  
 02/95 NASA Goes FTL - Part 2: Cracks in Nature's FTL Armor  
 04/95 GRS1915+105: The Fastest Fireball in the Galaxy  
 06/95 Lead Beams at CERN  
 08/95 "Texas" in Munich, Part 1: The Constants of the Universe  
 10/95 "Texas" in Munich, Part 2: Gamma Ray Bursts  
 12/95 Tunneling through the Lightspeed Barrier  
 01/96 Ultra-Energetic Cosmic Rays and Gamma Ray Bursts  
 03/96 Bose-Einstein Condensation: A New Form of Matter  
 05/96 The "Real World" and The Standard Model  
 07/96 Burn Up the Nuclear Waste

09/96 Inside the Quark (preons and quark structure)  
 11/96 The Alcubierre Warp Drive  
 01/97 Space Drives, Phased Arrays, and Interferometry  
 03/97 Antigravity Sightings  
 05/97 The Decline and Fall of the SSC  
 07/97 The Atom Laser  
 09/97 The Krasnikov Tube: A Subway to the Stars  
 11/97 Breaking the Standard Model  
 02/98 Planet of the Geezers (telomeres and human aging)  
 04/98 Gravity Waves and LIGO  
 06/98 The Quantum Eraser  
 09/98 Using DNA to Search for WIMPs  
 11/98 The Music of the (Neutron) Spheres  
 01/99 Massive Neutrinos  
 03/99 Before the Big Bang  
 05/99 Our Runaway Universe & Einstein's Cosmological Constant  
 7-8/99 What We Don't Understand  
 10/99 A Century of Physics  
 12/99 Our Millimeter-Size Universe  
 02/00 The Micro-Warp Drive  
 04/00 General Relativity without Black Holes  
 06/00 "Interaction-Free" Quantum Measurement and Imaging  
 09/00 The "Rare Earth" Hypothesis  
 11/00 New Improved Wormholes  
 01/01 BOOMERanG and the Sound of the Big Bang  
 03/01 Faster-than-Light Laser Pulses?  
 05/01 Decoding the Ribosome  
 07/01 2001: Then and Now  
 10/01 Supernova in a Bose-Einstein Bottle  
 12/01. The Carbon Nanotube - Miracle Material  
 02/02 The Next Big Accelerator  
 04/02 Brane Bashing: An Alternative to the Big Bang?  
 06/02 Quantum Computing, 5 Qubits and Counting  
 09/02 Physics Goes Underground  
 11/02 Quark Stars  
 01/03 The New Recycling Universe  
 03/03 A Stroll Through the Lyman Alpha Forest  
 05/03 The CERN LHC: A Black Hole Factory?  
 07/03 LSST - The Dark-Matter Telescope  
 10/03 The Universe as Seen by WMAP  
 12/03 A Mission to the Earth's Core  
 02/04 Introducing the Pentaquark  
 04/04 The Sound of the Big Bang - Reloaded  
 06/04 Neutrino Results from SNO, KamLAND, and WMAP  
 09/04 Left-Handed Materials: Super-Resolution Optics  
 11/04 A Farewell to Copenhagen?  
 01/05 The Big Rip at the End of Time  
 03/05 "Outlawing" Wormholes and Warp Drives  
 05/05 Solving the RHIC Puzzle  
 07/05 Dark-Energy Stars vs. Black Holes  
 10/05 The Ball Lightning Puzzle  
 12/05 The Universe of Choice  
 02/06 Hawking's Retreat  
 04/06 Planets of Binary Star Systems  
 06/06 Back in Time Through Other Dimensions  
 09/06 EPR Communication: Signals from the Future?

11/06 Planets of Binary Star Systems  
02/07 The Universe as a Watermelon  
04/07 Cooling Off Global Warming from Space  
06/07 Real Nuclear Fusion on a Tabletop

## **Other Publications; Miscellaneous**

"Introduction to now then again" by John Cramer, Chicago Footlights (Chicago's Performing Arts Guide), P1, March 2000. This introduction, distributed at performances, discusses quantum mechanics and the transactional interpretation, which provided the scientific theme used as a metaphor in the play, "now then again" by Penny Penniston, which premiered at the Bailiwick Repertory Theatre, Chicago, February -March, 2000, and was performed March-April at the Ivanhoe Theatre, Chicago, with one special performance September 16, 2000 at Fermilab. Cramer's introduction will be included in the "now then again" publication by Broadway Play Publishing.

Nanotechnology: The Coming Storm," John Cramer, foreword published in the book *Nanodreams*, an anthology of science fiction stories about nanotechnology, Baen Books (1995).

"Interpreting Quantum Mechanics," John G. Cramer, Letter to the Editor of *Science*, published July 1, 1983.

"How to Reform Indirect Costs," John G. Cramer, Guest Comment, *Physics Today* **34**, #1, 9 (January, 1981).

## **Other Conferences and Public Events**

### **Renaissance Weekend**

Renaissance Weekend is a private non-partisan retreat for discussion of current issues, sponsored by the Renaissance Institute, founded and organized 17 years ago by Phil Lader (recent US Ambassador to the United Kingdom) and his wife Linda. I have participated in two Renaissance Weekend retreats (New Years 1998 and 1999) at Hyatt, Hilton Head, South Carolina.

Renaissance Weekend, December 28, 1999- January 1, 2000. I served as panelist and resource person for "Renaissance Academy I: What's Right? -- The Ethics & Politics of Science in the New Century"; Panelist: "Renaissance Sci/Tech Forum: Hello, Out There -- Space, Physics & the Possibility of the Galaxy"; and presented "Things We Don't Understand in Physics or Astrophysics" (a talk for 9 - 12 year old children).

Renaissance Weekend, December 29, 1998 - January 1, 1999. I served as a panelist and resource person for "Renaissance Academy I: Promise & Perils - Scientific Research Which Will Change Our Children's Lives"; Panelist: "Renaissance Technology Summit"; resource person for "How the Geeks Have Inherited the Earth -- New Technology News"; and presented "Killer Asteroids, Supernovas & Other Scary Astrophysics (a talk for 9 - 12 year old children).

## **Science Fiction Conventions**

In order to reach a broader audience for ideas about cutting edge physics and astrophysics research, I have been contributing programming suggestions to science fiction convention organizers and giving talks and moderating and participating in panel discussions at SF conventions for the past twenty years. Below is a list of the major (worldcon) conventions, which typically have around 6000 attendees, where I have been an invited program participant.

CHICON 2000, The 58th World Science Fiction Convention, August, 2000, Chicago, IL;  
BucCONeer, The 56th World Science Fiction Convention, August, 1998, Baltimore, MD;  
LoneStarCon2, The 55th World Science Fiction Convention, August, 1997, San Antonio, TX.;  
L.A.con III, The 54th World Science Fiction Convention, August, 1996, Anaheim, CA;  
Intersection, The 53rd World Science Fiction Convention, August, 1995, Glasgow, Scotland;  
ConFrancisco, The 51st World Science Fiction Convention, August, 1993, San Francisco, CA  
Chicon V, The 49th World Science Fiction Convention, August, 1991, Chicago, IL;  
ConFiction, The 48th World Science Fiction Convention, August, 1990, The Hague, Netherlands;  
Noreascon III, The 47th World Science Fiction Convention, August, 1989, Boston, MA;

## **Northwest Bookfest, Seattle**

I have been a panel participant at Northwest Bookfest two different years. Northwest Bookfest, November 14, 1999, Washington State Convention Center, Seattle, Washington. Panel: "Relativity, Gravity, and Alternate Universes, Oh My!," (Moderated by Dave Beck of KUOW with John Cramer, Amir Aczel, and Craig Hogan, of UW astronomy dept.); and Panel: "The Internet: Homesteading the Wild Frontier". In 1997 I was a panelist on a non-fiction writing panel.