Spencer R. KLEIN

Publication List

Authorships

I had a significant role in these publications.

Inhomogenous Shadowing Effects on J/ψ Production in dA Collisions, S. R. Klein and R. Vogt, nucl/th-0305046, submitted to Physical Review Letters.

Deuteron Photodissociation in Ultra-peripheral Relativistic Heavy Ion-Deuteron Collisions, S. R. Klein and R. Vogt, nucl-ex/0303013, submitted to Physical Review Letters.

Nuclear Shadowing and High-p_T Hadron Spectra in Relativistic Heavy Ion Collisions, Phys. Rev. **C67**, 047901 (2003).

Does Particle Decay Cause Wave Function Collapse, S. R. Klein and J. Nystrand, Phys. Lett. **A308**, 323 (2003).

The High-energy Gamma-ray Fluence and Energy Spectrum of GRB970417A from Observations with Milagrito, R. Atkins *et al.*, Astrophysical Journal **A583**, 824 (2003).

A Readout System for the STAR Time Projection Chamber, M. Anderson *et al.*, Nuclear Instruments and Methods **A499**, 679 (2003).

The STAR Time Projection Chamber: a Unique Tool for Studying High Multiplicity Events at RHIC, M. Anderson *et al.*, Nuclear Instruments and Methods **A499**, 659 (2003).

The STAR Detector Overview, K. H. Ackermann *et al.*, Nuclear Instruments and Methods **A499**, 624 (2003).

The Forward Time Projection Chamber in STAR, K. H. Ackerman *et al.*, Nuclear Instruments and Methods **A499**, 713 (2003).

Hardware Controls for the STAR Experiment at RHIC, D. Reichold *et al.*, Nuclear Instruments and Methods **A499**, 792 (2003).

The STAR Trigger, F. S. Bieser *et al.*, Nuclear Instruments and Methods **A499**, 766 (2003).

Diffraction at RHIC, A. Bravar *et al.*, J. Phys. **G28**, 2885 (2002).

Coherent ρ^0 Photoproduction in Ultra-Peripheral Heavy Ion Collisions, C. Adler *et al.*, Physical Review Letters **89**, 272302 (2002).

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Coherent Vector-Meson Photoproduction with Nuclear Breakup in Relativistic Heavy-Ion Collisions, Anthony. J. Baltz, Spencer R. Klein and Joakim Nystrand, Physical Review Letters **89**, 012301 (2002).

A Full Acceptance Detector for the LHC (FELIX), A. Ageev *et al.*, J. Phys. G **28**, R117 (2002).

A Readout System for the STAR Time Projection Chamber, M. Anderson *et al.*, nucl-ex/0205014, to appear in Nuclear Instruments and Methods.

Photoproduction of Top in Peripheral Heavy Ion Collisions, Spencer R. Klein, Joakim Nystrand and Ramona Vogt, European Physics Journal **C21**, 563 (2001).

Localized Beampipe Heating due to e^- Capture and Nuclear Excitation in Heavy Ion Colliders, Spencer R. Klein, Nuclear Instruments and Methods **A459**, 51 (2001).

Review of Particle Properties, D. E. Groom *et al.*, European Physics Journal **15**, 1 (2000).

MILAGRITO: a TeV air shower array, R. Atkins *et al.*, Nuclear Instruments and Methods **A449**, 478 (2000).

Interference in Exclusive Vector Meson Production in Heavy Ion Collisions, S. Klein and J. Nystrand, Physical Review Letters **84**, 2330 (2000).

The Effect of Shadowing on Initial Conditions, Transverse Energy and Hard Probes in Ultrarelativistic Heavy Ion Collisions, V. Emel'yanov *et al.*, Physical Review **C61**, 044904 (2000).

Exclusive Vector Meson Production in Relativistic Heavy Ion Collisions, Spencer Klein and Joakim Nystrand, Physical Review C **60**, 014903 (1999).

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Suppression of Bremsstrahlung and Pair Creation due to Environmental Factors, Spencer Klein, Reviews of Modern Physics **71**, 1501 (1999).

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Charm Quark Production in Non-central Heavy Ion Collisions, V. Emel'yanov *et al.*, Physical Review **C56**, 2726 (1997).

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Charmed Baryons: A New Laboratory for Charm Studies. S. R. Klein, International Journal of Modern Physics A **5**, 1457 (1990).

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The HEAO-A2 Soft X-Ray Survey of Dwarf Novae in Outburst. F.A. Cordova, J.J.

Nugent, S.R. Klein, and G.P. Garmire. Monthly Notices of the Royal Astronomical Society **190**, 87 (1980).

Co-authorships

Coauthorship on the following papers, as part of the STAR, CYGNUS, MILAGRO, MACRO, TEXAS, Mark II and/or Mark II upgrade collaborations:

Narrowing of the balance function with centrality in Au + Au collisions at $\sqrt{s_{NN}} =$ 130 GeV, J. Adams *et al.*, Phys. Rev. Lett. **90**, 172301 (2003).

Disappearance of Back-to-back High p_T Correlations in Central Au + Au Collisions at $\sqrt{S_{NN}}$ = 200 GeV, C. Adler *et al.*, Physical Review Letters **90**, 082302 (2003).

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Centrality Dependence of High p_T Hadron Suppression in Au+Au Collisions at $\sqrt{S_{NN}} = 130$ GeV, C. Adler *et al.*, Physical Review Letters **89**, 202301 (2002).

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Azimuthal Anisotropy and Correlations in the Hard Scattering Regime at RHIC, C. Adler *et al.*, Physical Review Letters **90**, 032301 (2003).

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Mid-rapidity Λ and $\overline{\Lambda}$ Production in Au + Au Collisions at $\sqrt{S_{NN}} = 130$ GeV, C. Adler *et al.*, Physical Review Letters **89**, 092301 (2002).

Elliptic Flow from Two and Four Particle Correlations in Au + Au Collisions at 130 GeV, C. Adler *et al.*, Phys. Rev. **C66**, 034904 (2002).

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A New Limit on the Rate-Density of Evaporating Black Holes. D.E. Alexandreas *et al.*, Physical Review Letters **71**, 2524 (1993).

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Daily Search for Emission of Ultra High Energy Radiation from Point Sources. D.E. Alexandreas *et al.*, Astrophysical Journal **405**, 353 (1993).

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Arrival Time Distributions of Very High Energy Cosmic Ray Muons in MACRO. R. Bellotti, *et al.*, Nuclear Physics **B370**, 432 (1992).

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Measurement of the $b\overline{b}$ Fraction in Hadronic Z Decays. J. F. Kral *et al.*, Physical Review Letters **64**, 1211 (1990).

A Reanalysis of $B^0\overline{B}^0$ Mixing in e^+e^- Annilation at 29 GeV. A Weir *et al.*, Physics Letters **B240**, 289 (1990).

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Search for a nearly degenerate lepton doublet (L^-, L^0). K. Riles *et al.*, Physical Review **D42**, 1 (1990).

Measurement of Z Decays into Lepton Pairs. G.S. Abrams *et al.*, Physical Review Letters **63**, 2780 (1989).

Searches for New Quarks and Leptons Produced in Z-Boson Decay. G. Abrams *et al.*, Physical Review Letters **63**, 2447 (1989).

Measurement of Z Boson Resonance Parameters in e^+e^- Annihilation. G. Abrams *et al.*, Physical Review Letters **63**, 2173 (1989).

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Measurement of Single and Double Radiative Low Q^2 Bhabha Scattering at E_{cm} = 29 GeV. D. Karlen *et al.*, Physical Review **D39**, 1861 (1989).

Limits on New Lepton Pairs (L^-,L^0) With Arbitrary Neutrino Mass. D.P. Stoker *et al.*, Physical Review **D39**, 1811 (1989).

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Determination of α_s from Energy-Energy Correlations in e^+e^- Annihilation at 29 GeV. D. R. Wood *et al.*, Physical Review **D37**, 3091 (1988).

Measurement of the τ Lifetime. D. Amidei *et al.*, Physical Review **D37**, 1750 (1988).

Multihadronic Events at E_{cm} = 29 GeV and Predictions of QCD Models from E_{cm} = 29 GeV to E_{cm} = 93 GeV. A. Petersen *et al.*, Physical Review **D37**, 1 (1988).

Upper Limit on the Branching Ratio for the Decay $\tau \to \pi^- \eta \nu_\tau$. K.K. Gan *et al.*, Physics Letters **B197**, 561 (1987).

Measurement of the D^0 Lifetime from the Upgraded Mark-II Detector at PEP. S. R. Wagner *et al.*, Physical Review **D36**, 2850 (1987).

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Observation of a Spin 1 Resonance in the Reaction $\gamma\gamma^* \to K^0K^+\pi^\pm$. G. Gidal *et al.*, Physical Review Letters **59**, 2012 (1987).

Study of τ Decay Modes With Multiple Neutral Mesons in the final States. K.K. Gan *et al.*, Physical Review Letters **59**, 411 (1987).

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Limit on the Decay $D^0 \to e^\mp\mu^\pm$. K. Riles *et al.*, Physical Review **D35**, 2914 (1987).

A Study of the Decay $\tau \to \pi^-\pi^-\pi^+\nu_\tau$. W.B. Schmidke *et al.*, Physical Review Letters **57**, 527 (1986).

Charged Meson Pair Production in $\gamma\gamma$ Interactions. J. Boyer *et al.*, Physical Review Letters **56**, 207 (1986).

Inclusive Charged Particle Distribution in Nearly 3-Fold Symmetric 3 Jet Events at E_{cm}= 29 GeV. A. Petersen *et al.*, Physical Review Letters **55**, 1954 (1985).

Upper Limit of B^0 $\overline{B^0}$ Mixing in e^+e^- Annihilation at 29 GeV. T. Schaad, M.E. Nelson *et al.*, Physics Letters **160B**, 188 (1985).

Λ Production in e^+e^- Annihilation at 29 GeV. C. de la Vaissiere *et al.*, Physical Review Letters **54**, 2071 (1985). Erratum ibid. **55**, 263 (1985).

Selected Professional Talks:

"Vector Meson Interferometry in STAR," invited talk presented at the workshop on ultra-peripheral collisions, April 21-25, 2003, Inst. of Nuclear Theory, Seattle, Washington.

"Ultra-Peripheral Collisions in STAR: Current Results and Future Prospects," invited talk presented at the Workshop on Coherent Effects at RHIC and LHC: Initial Conditions and Hard Probes, Oct. 14-25, ECT, Trento, Italy.

"Multiple UPCs in a Single Collision," invited talk presented at the 2nd Workshop on Ultra-Peripheral Heavy Ion Collisions, Oct. 11-12, 2002, CERN.

"Heavy Nuclei, from RHIC to the Cosmos," invited talk presented at the XI-Ith Intl. Symp. on Very High Energy Cosmic Ray Interactions, CERN, Geneva, Switzerland, July 15-20, 2002. The writeup , astro-ph/0211018, will appear in the proceedings.

"Diffractive studies with pp at RHIC," presented at the Workshop on Diffraction and Glueball Searches at RHIC, May 17-18, 2002, Brookhaven National Lab, NY.

"Probing the Nucleus in Ultra-peripheral collisions," invited talk presented at the Workshop on "QCD in the RHIC era", April 8-12, 2002, Santa Barbara, CA.

"Electrodynamics at the Highest Energies," invited talk presented at a workshop on Electromagnetic Probes of Fundamental Physics, Erice, Italy, Oct. 16-21, 2001. Published in the proceedings (also hep-ex/0112018).

"Ultra-peripheral Collisions at RHIC," invited talk presented at the 2001 RHIC/AGS users meeting, Aug. 9-10, 2001,Brookhaven, NY.

"Ultra-peripheral Collisions of Relativistic Heavy Ions," presented at the Intl. Nucl. Phys. Conf., Jul. 30-Aug. 3, 2001. Published in the proceedings (also as nucl-ex/0108018).

"A Two-source Interferometer for Short-lived Particles in Relativistic Heavy Ion Collisions," presented at the 7th Intl. Conf. on Squeezed States and Uncertainty Relations, June 4-8, 2001, Boston, MA.

"Observation of $Au + Au \rightarrow Au + Au + \rho^0$ and $Au + Au \rightarrow Au^* + Au^* + \rho^0$ with STAR", invited talk presented at the 17th Winter Workshop on Nuclear Dynamics, March 10-17, 2001, Park City, UT. Published in the proceedings (also as nucl-ex/0104016).

"Nonlinear QED Effects in Heavy Ion Collisions," invited talk presented at the 18th Advanced ICFA Beam Dynamics Workshop on Quantum Aspects of Beam Physics, Capri, Italy, Oct. 15-20, 2000. To appear in the proceedings (also as physics/0012021).

"RHIC and the Big Bang," talk presented at the Cosmic Genesis and Fundamental Physics Workshp, October 28-30, 1999, Sonoma State U, Rohnert Park, CA.

"Coherent Photonuclear Interactions at RHIC," invited talk at the RHIC Winter Workshop, Jan 7-9, 1999, Berkeley, CA.

"The LPM Effect: Comparing SLAC E-146 Data with Experiment," invited talk at the Fourth Workshop on Quantum Chromodynamics, June 1-6, 1998, Paris, France. Published in the proceedings (also as hep-ph/9808235).

"Bremsstrahlung & Pair Production Suppression and it's Effect on Air Showers," invited talk at the Workshop on "Observing the Highest Energy Particles ($> 10^{20}$ eV) from Space", Nov. 13-15, 1997, University of Maryland, MD. Published in the proceedings (also as astro-ph/9712198).

"The Spatial Dependence of Structure Functions in Heavy Nuclei," presented at the 1997 American Physical Society Division of Nuclear Physics Meeting, October 5-8, 1997, Whistler, BC, Canada.

"Coherent Photons and Pomerons in Heavy Ion Collisions," presented at the 6th Conf. on the Intersections of Particle and Nuclear Physics, May 27-June 2, 1997, Big Sky, Montana. The writeup, co-authored with Evan Scannapieco, is in the proceedings.

"The Gold Flashlight: Coherent Photons (and Pomerons) at RHIC," presented at Photon '97, May 10-15, Egmond aan Zee, The Netherlands. The writeup, co-authored with Evan Scannapieco, is in the proceedings.

"Seeing Pomerons with STAR," presented at the RHIC/INT Winter Workshop on Hadronic Probes of New Physics at RHIC, February 20-22, 1997, Berkeley, CA.

"Front End Electronics for the STAR TPC," presented at the 1995 IEEE Nuclear Science Symposium, San Francisco, California, October 23-28, 1995. Published in the proceedings and in IEEE Transactions on Nuclear Science. (listed under publications)

"The STAR TPC Front End Electronics," presented at the First Workshop for LHC Electronics", Lisbon, Portugal, September 11-15, 1995. Published in the proceedings.

"Two Photon Physics at RHIC," presented at Photon '95, Sheffield, England, April 8-13, 1995. Published in the proceedings.

"A Method of Obtaining Parasitic e^+ or e^- Beams during SLAC Linear Collider Operation," poster presented at the 1993 Nuclear Science Symposium, November, 1993. S. Klein, *et al.*. Published in the conference record and in IEEE Trans. Nucl. Science (listed under Publications).

"Measurement of the LPM Effect," invited talk presented at the XVIth International Symposium on Lepton Photon Interactions, Cornell University, August 10th-

15th, 1993. Published in the proceedings.

"An Experimental Test of the LPM Effect: Bremsstrahlung Suppression at High Energies," presented at the 7th meeting of the Division of Particles and Fields of the APS, November 10-14, 1992, Batavia, IL. Published in the proceedings.

"MILAGRO: A Low Threshold Water Cherenkov Air Shower Array," presented at the 7th meeting of the Division of Particles and Fields of the APS, November 10-14, 1992, Batavia, IL. Published in the proceedings.

"Competition between Multiple Scattering and Bremsstrahlung," presented at the SLAC Workshop on High Energy Electroproduction and Spin Physics, February 5-8, 1992. Transparencies published in the proceedings, SLAC-Report 392, Feb. 1992.

"A Zero Suppressing 200 MSPS Waveform Digitizer for MACRO," presented at the 1991 IEEE Nuclear Science Symposium, Santa Fe, NM, November 5-10, 1991. Published in the Conference Record.

"Charmed Baryons (at PEGASYS)," invited talk presented at the Workshop on Electronuclear Physics with the PEGASYS/Mark II Detector at PEP, Stanford, CA, January 9-12, 1991. Transparencies reproduced in the proceedings.

"Recent Results from MACRO" and "Test Beam Requirements for TEXAS," presented at the 1990 DPF Summer Study on Particle Physics, Snowmass, CO, June 25-July 13, 1990.

"Triggering and Data Acquisition with the TEXAS Detector," presented at the Workshop on Major SSC Detectors, Tucson, AZ, February 19-23, 1990.

"First Results from MACRO," invited talk presented at the 17th Annual SLAC Summer Institute in Particle Physics, July 10-21, 1989. Published in the proceedings, SLAC-Report-361, January, 1990.

"Semileptonic Λ_c Decays with the Mark II at PEP," presented at the XXIInd Rencontres de Moriond: Current Issues in Hadron Physics, Les Arcs, Savoie, France, March 13-19, 1988. Published in the proceedings.

"Detection and Identification of (Long Lived) Neutral Particles," presented at the 3rd Mark II Workshop on Physics at the SLC, Pajaro Dunes, CA, Feb. 14-17, 1987. Published in the proceedings, SLAC-Report 315, July, 1987.

"Strange Baryon Production in e^+e^- Collisions at an E_{cm} of 29 GeV," presented at the 1987 Annual Meeting of the Division of Particles and Fields of the APS, Salt Lake City, January 14-17, 1987.

"A Course on Modern Physics Through Science Fiction," presented at the joint APS/AAPT Meeting, San Francisco, CA, Jan 27-31, 1987. Abstract published in the Bulletin of the APS **32**, 1402 (1987).

"Some Triggering considerations for the Mark II at SLC," presented at the First

Mark II Workshop on Physics at the SLC, Asilomar, CA, March 16-19, 1986.

Publications in Conference Proceedings:

I had a significant role in the following publications, but did mot give the associated talk:

Aspects of Coulomb Dissociation and Interference in Peripheral Nucleus-Nucleus Collisions, J. Nystrand, A. J. Baltz and S. R. Klein, preprint nucl-th/0203062, to appear in Proc. of the Workshop on Electromagnetic Probes of Fundamental Physics, Erice, Italy, Oct. 16-21, 2001.

Hot Topics in Ultra-Peripheral Collisions, G. Baur *et al.*, preprint hep-ex/0201034, to appear in Proc. of the Workshop on Electromagnetic Probes of Fundamental Physics, Erice, Italy, Oct. 16-21, 2001.

The Transverse Energy Spectra at RHIC and Spatial Dependence of Nuclear Structure Functions, V. M. Emel'yanov *et al.*, Feb., 1999, in Yad. Fiz. **62**, 2259 (1999) [Physics of Atomic Nuclei **62**, 2081 (1999).].

Shadowing Effects on Particle and Transverse Energy Production, V. Emel'yanov, A. Khodinov, S. R. Klein and R. Vogt, in Proc. Quark Matter '99, Nuclear Physics **A661**, 649c (1999).

Two-Photon Physics in Nucleus-Nucleus Collisions at RHIC, J. Nystrand and S. Klein, nucl-ex/9811007, November, 1998, in the Proc. Workshop on Photon Interactions and the Photon Structure, Lund, Sweden, Sept. 10-13, 1998.

Two-Photon Physics at RHIC: Separating Signals from Backgrounds, J. Nystrand and S. Klein, in the Proc. Hadron '97, August 25-30, 1997, Brookhaven, NY.

STAR Controls System, J. Meier *et al.*, in Proc. ICALEPCS. '95.

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