

**Actions Following
Brookhaven National Laboratory
Nuclear and Particle Physics
Program Advisory Committee Meetings
September 1996–May 2008**

8-9 May 2008

P971 (Y. Semertzidis, et al.): Search for a Permanent Electric Dipole Moment of the Deuteron Nucleus at the 10^{-29} e · cm Level. *Encouraged to develop, during the summer of 2008, an R&D plan for 2008-2012 that lays out clear and detailed milestones; asked to develop a run plan at an existing storage ring that will permit the necessary measurements to achieve these milestones; plan for an initial technical review during 2009 and a DOE CD-0 review during calendar year 2010.*

29-30 March 2007

LoI (D. Babusci, et al.): Development of a Resonance Method to Search for a Deuteron Electric Dipole Moment Using a Charged Particle Storage Ring. *Encouraged to develop a proposal.*
R20 (P. Chaudhari, et al.): Search for Magnetic Monopoles at the Relativistic Heavy Ion Collider (RHIC). *Rejected, but encouraged to continue tests with the goal of determining the feasibility of operating SQUIDS in the environment of a hadron collider.*

12-14 September 2006

LoI (M. Bai, et al.): Development of a Resonance Method to Search for a Deuteron Electric Dipole Moment Using a Charged Particle Storage Ring. *Encouraged to explore the feasibility of developing into a proposal.*
LoI (M. Lowry, et al.): Search for an Electron EDM with PbF. *Advised not to continue effort.*
R20 (P. Chaudhari, et al.): Search for Magnetic Monopoles at the Relativistic Heavy Ion Collider (RHIC). *Encouraged to improve proposal and perform some feasibility tests.*

23-24 March 2006

None: only planning recommendations.

3-5 November 2005

None: only RHIC Run 6 and planning recommendations.

8-10 September 2004

EOI (R. Bellwied, J. Harris, P. Steinberg, & T. Ulrich): A Comprehensive New Detector at RHIC II. *Encouraged to participate in a broad discussion of the RHIC II program.*

E964Rev (K. Imai, K. Nakazawa, & H. Tamura): Systematic Study of Double Strangeness System by an Emulsion-Counter Hybrid Method. *Scientific approval.*

P969 (D. Hertzog, W. Morse, & L. Roberts): A $(g - 2)_\mu$ Experiment to ± 0.2 ppm Precision. *Scientific approval.*

P970 (J. Miller, Y. Semertzidis, & E. Stephenson): Search for a Permanent Deuteron Electric Dipole Moment at the 10^{-27} e-cm Level. *Rejected.*

LoI (B. Fleming & R. Tayloe): A Neutrino Scattering Experiment Using an AGS Neutrino Beam. *Encouraged to develop a proposal.*

LoI (T. Nakano): Search for the Pentaquark. *Encouraged to develop a proposal.*

29-30 September 2003

RP19 (W. Guryon): Spin Dependence of Proton-Proton Elastic Scattering at RHIC. *Rejected.*

26-27 August 2002

P959R (T. Kishimoto): Study of Kaonic Nuclei by the (K^-, N) Reactions. *Rejected.*

P961R (R. Chrien, T. Fukuda, A. Rusek): Search for Double- Λ Hypernuclei by Sequential Pionic Decays. *Provisional scientific approval.*

P965 (K. McDonald): Proposal to Measure the Efficiency of Electron Charge Sign Determination up to 10 GeV in a Magnetized Liquid Argon Detector (μ LANNDD). *Deferred.*

28-29 September 2001

P959 (T. Kishimoto): Study of Kaonic Nuclei by the (K^-, N) Reactions. *Rejected.*

P961 (R. Chrien, T. Fukuda, A. Rusek): Search for Double- Λ Hypernuclei by Sequential Pionic Decays. *Rejected.*

P962 (V. Hughes, B.L. Roberts): A Precision Measurement of the Muon $(g - 2)$ Value. *Scientific Approval*

P964 (K. Imai, K. Nakazawa, H. Tamura): Systematic Study of Double Strangeness System by an Emulsion-Counter Hybrid Method. *Scientific Approval.*

BRAHMS, PHENIX, Phobos, and STAR presented their Beam Use Proposals to the PAC. The following priorities were established for additional running, should it be possible, following the FY02 polarized proton run:

1. Complete the Run 2 objectives in all four experiments with Au+Au at 200 A·GeV;
2. A short machine development run to extend the RHIC capability to deliver d+Au;

3. If substantial running time (with comparable event sample to Au+Au) becomes available before the 2002 shutdown, a dedicated d+Au run with the current detectors should be performed; if only a few weeks become available, short runs with different nuclear species and/or energies should be undertaken.

30 November–1 December 2000

P958 (J. Comfort, M. Sadler): Pion Charge Exchange Cross Sections at Low Energies. *Scientific Approval.*

R15 (Y. Onel, S. White): Scattering Protons and Ions at RHIC on Internal Targets (SPIRIT). *Rejected.*

R16 (J. Harris): STAR Barrel Electromagnetic Calorimeter Spin and High P_T Proposal. *Deferred, pending technical review.*

BRAHMS, PHENIX, Phobos, and STAR presented their Beam Use Proposals to the PAC. The following priorities were established:

1. The RHIC operating periods for FY01 and FY02 are combined into one continuous cryogenic operating period commencing cooldown on May 1, 2001 and anticipating first collisions about May 21 2001;
2. The sequence of RHIC colliding beams will be: ~ 12 weeks of Au+Au at the highest energy (nominally 200 A·GeV), and ~ 5 weeks of polarized protons at the nominal 100 GeV tune, followed by additional runs to explore the energy and ion size dependence.

23-25 March 2000

E906 extension (R. Chrien, T. Fukuda, A. Rusek): A search for Double- Λ Hypernuclei by Observing Sequential Pionic Weak Decays. *Deferred.*

E927 update (J. Comfort, B. Nefkens, B. Tippens): Measurement of the K_{e3}^+ Decay Rate and Spectrum. *Test run approved.*

P952 (P.Cushman): An Improved Limit on the Muon Neutrino Mass from Pion Decay in Flight. *Scientific Approval.*

P953 (M. Manley, B. Nefkens, H. Spinka): Neutral Hyperon Spectroscopy with the Crystal Ball. *Conditional approval.*

P954 (B. Nefkens, R. Peterson, A. Starostin): $2\pi^0$ Production on Complex Nuclei by π^- . *Rejected.*

R8 revised (A. Krisch): Spin@RHIC. *Rejected.*

R14 (A. Melissinos): Search for the θ -Vacuum in Relativistic Heavy Ion Collisions. *Rejected.*

24-25 May 1999

P951 (K. McDonald): An R&D Program for Targetry and Capture at a Muon-Collider Source. *Recommended for consideration by the Muon Collider Oversight Group (MCOG), which subsequently recommended approval. Approved as E951 on 1 October 1999.*

8-9 October 1998

- E923 (R. Adair, M. Diwan, H. Ma): Search for T-Violating Muon Polarization in $K_{\mu 3}^+$ Decay. *Scientific approval continued.*
- E936 (J. Imazato): Search for T-Violation in the Decay $K^+ \rightarrow \pi^0 \mu^+ \nu$ Decay Using Stopped Kaons. *Scientific approval withdrawn.*
- E948 (E. Stephenson): Investigation of Charge Exchange Scattering for RHIC Polarimetry. *Approved.*
- P949 (D. Bryman, S. Kettell, S. Sugimoto): An Experiment to Measure the Branching Ratio $B(K^+ \rightarrow \pi^+ \nu \bar{\nu})$. *Approved.*
- P950 (D. Fields): A Proposal to Measure the Analyzing Power for Proton-Carbon Elastic Scattering in the Coulomb-Nuclear Interference Region at the RHIC Transfer Energy. *Approved.*
- R10 (J. Sandweiss): Measurement of Bremsstrahlung and Charge Stopping in Central RHIC Collisions. *Rejected.*
- R11 (J. Harris): Endcap Electromagnetic Calorimeter for Spin Physics at STAR. *Approved.*
- R12 (J. Harris): Silicon Strip Detector for STAR. *Approved.*

23-24 October 1997

- P931 update (J. Gerald, E. Hungerford, V. Zeps): A Study of the $\Delta I = 1/2$ Rule in the Weak Decay of S-Shell Hypernuclei. *Approved.*
- P940 (W. Molzon): Muon-Electron Conversion (MECO). *Scientific Approval.*
- P941 (H. Huang, R. Majka): Study of Charged and Neutral Leading Particles in p+A Collisions in the BNL AGS. *Approved.*
- P942 (R. Peterson, H. Staudenmaier): Nuclear Physics with the Crystal Ball. *Rejected*

28 February–1 March 1997

- E900 extension (K. Kwiatkowski, V. Viola): Heating Nuclei with Antiprotons. *Approved.*
- P936 (J. Imazato): Search for T-Violation in the $K^+ \rightarrow \pi^0 \mu^+ \nu$ Decay Using Stopped Kaons. *Scientific Approval.*

30 September–2 October 1996

- P923 (R. Adair, M. Diwan, H. Ma): Search for T-Violating Muon Polarization in $K_{\mu 3}^+$. *Scientific Approval.*
- P924 (D. Hertzog): Study of the $\xi(2220)$ in $\bar{p}p \rightarrow$ Neutral Final States Using the Crystal Ball in the AGS D6 Line. *Scientific Approval.*
- P925 (Y. Makdisi, A. Yokosawa): Asymmetries in Inclusive Pion Spectra at Large X_F (0.5 to 0.8) and $P_t \geq 0.8$ GeV/c. *Approved.*
- P926 (L. Littenberg): Measurement of $K_L \rightarrow \pi^0 \nu \bar{\nu}$. *Scientific Approval.*
- P927 (T. Kycia, B. Nefkens): Measurement of the $K_{e 3}^+$ Decay Rate and Spectrum. *Deferred.*
- P928 (M. Ieri, K. Imai): $\Xi^- p$ Scattering Experiment. *Rejected.*
- P929 (T. Kishimoto): Spin-Orbit Splitting of Single Λ State Studied by the $^{13}\text{C}(K^-, \pi^- \gamma)$ Reaction. *Approved.*
- P930 (H. Tamura): High-Resolution γ Spectroscopy of Hypernuclei Using Large Acceptance Germanium Detector. *Approved.*
- P931 (J. Gerald, E. Hungerford, V. Zeps): A Study of the $\Delta I = 1/2$ Rule in the Weak Decay of S-Shell Hypernuclei. *Deferred.*