Preliminary results with a missing energy resolution of 750 KeV FWHM show good correlation with available theoretical models. Details about results will be shown.

9:42 AM
MB.00006 - Combined analysis of $\pi^+ \rightarrow e^+ \nu$ decay in the PIBETA data stream. Maxim Bychkov, University of Virginia, PIBETA Collaboration — The PIBETA experiment, carried out at the Paul Scherrer Institute, Switzerland, has acquired the world’s largest data set of radiative pion decay events $\pi^+ \rightarrow e^+ \nu$ to date. Radiative pion decay is the premier source of information regarding the charged pion structure, and it provides an independent check of the CVC hypothesis of the weak interactions. The data were collected in two separate runs. Analyses of the original data sample indicated possible discrepancies with the Standard Model of elementary particles, and prompted a dedicated run specifically optimized for the radiative pion decay study. In this talk we present the analysis of the dedicated run as well as a fresh look at the old data with an improved understanding of the systematic effects and with increased statistics.

9:54 AM
MB.00007 - Redesign of the PIBETA Beam Detectors for a New $\pi_{5\pi}$ Experiment at PSI, Emil Fließ, University of Virginia, PEN Collaboration — PEN, a new experiment aiming to measure the $\pi^+ \rightarrow e^+ \nu$ ($\pi_{5\pi}$) decay branching ratio with a relative uncertainty of $\sim 5 \times 10^{-6}$ has begun this year at the Paul Scherrer Institute ring accelerator. A development run with an upgraded PIBETA detector was conducted during the summer of 2006. In this contribution we discuss the design and performance of the new beam detectors: the upstream beam counter, and the active collimator, degrader and target using low-momentum 72-80 MeV/c $\pi^+$ beams. All beam detector waveforms were digitized with a 2 GHz/10 bit Acqiris digitizer.

10:06 AM
MB.00008 - Search for Sub-Threshold $J/\psi$ Photoproduction1, Parikshit Junnarkar2, Mississippi State University — We present results from the recent Jefferson Lab experiment E03-008: "Subthreshold $J/\psi$ Photoproduction." A beam of 6 GeV electrons was impinged on a thick carbon target and lepton pairs were detected in two magnetic spectrometers in Hall C. The kinematics were sub-threshold to production from a free proton, so the experiment probed the short distance configuration in the nucleus, where one expects sensitivity to higher twist effects (such as three-gluon exchange), intrinsic charm contributions, and possible multi-quark resonances involving charmed quarks. An upper bound for the cross section near threshold will be presented.

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2Representing the E03-008 Collaboration

SESSION MC HIGH ENERGY PHYSICS II
Williamsburg Hospitality House, Empire C
Chair: Simonetta Liuti (University of Virginia)
Saturday, November 11, 2006 8:30 AM - 10:18 AM

8:30 AM
MC.00001 - Status of the ATLAS Transitional Radiation Tracker, Richard Wall, Duke University, ATLAS Collaboration — The ATLAS Transition Radiation Tracker (TRT) is a straw tube tracking system, which, together with the silicon tracking system, will provide precision measurements of particle tracks that are crucial for the discovery potential of the ATLAS detector at the Large Hadron Collider (LHC). Here we overview the status of the TRT integration and commissioning, and discuss results on its alignment and tracking efficiency using recent cosmic-ray data. This understanding is important for optimizing the tracking and particle identification capabilities of the TRT for when physics results are expected in late 2007.

8:42 AM
MC.00002 - Calibration, Installation & Commissioning of Sensors for the Alignment of Muon Endcap Chambers in the CMS Experiment, Samir Guragain, Marcus Hohlmann, Dept. of Physics, Florida Institute of Technology, Melbourne, Florida 32901, US CMS Collaboration — The positions of muon endcap chambers are to be monitored precisely in the Compact Muon Solenoid (CMS) experiment at the Large Hadron Collider (LHC) by using analog sensors (R sensors, Z sensors, proximity sensors, and inclinometers) and optical DCOP sensors based on CCDs. The analog sensors were calibrated at Florida Tech using a semi-automated mechanical calibration bench and a Labview-based control and readout system. In summer 2006, half of all the sensors and readout were installed and commissioned on four endcap layers. Laser beams were carefully adjusted for passage through all DCOPS on 15m Straight Line Monitors (SLM) across three endcap disks. During the summer, the detector was closed up and the huge 4 Tesla solenoid magnet of CMS was turned on for the first time ever. The movement of muon chambers for the alignment in R-Ø and Z directions was monitored continuously by a complex system of wire extension and linear motion potentiometers, inclinometers, and DCOPS during the CMS Magnet Test & Cosmic Challenge in the summer. Sensors clearly indicated the flexing of the large absorber disks when the field was turned on. We present sensor calibration methods and results, an overview of the installed sensor system, and first commissioning results for the endcap alignment at CERN. Supported by Florida Tech, Fermilab and Department of Energy.

8:54 AM
MC.00003 - Muon Ionization Cooling for an 8 TeV Lepton Collider1, Don Summers, University of Mississippi — A scenario for cooling muon bunches a factor of a million will be presented. Such cold muon bunches are the key to building an 8 TeV $\mu^+\mu^-$ lepton collider to explore the energy