From: Alex Dzierba <dzierba@indiana.edu>
Subject: summary of yesterday's phone conference
Date: August 29, 2007 12:47:52 AM GMT-06:00
To: Zisis Papandreou <Zisis.Papandreou@uregina.ca>, George Lolos <George.Lolos@uregina.ca>, Blake Leverington <leverinb@uregina.ca>, Andrei Semenov <semenov@jlab.org>

Dear All

Below is a modification of the list I sent out prior to our phone conference of yesterday. Here is a summary of what I recall as our major conclusions based on our discussion of items on this list.

1. We agreed to generate a brief report (10 page max) summarizing what we know based on analysis of photon data, cosmics data and simulations. That will be followed by a longer, more detailed note. The deadline for the brief report will be before the collaboration meeting and we will finalize it during the week that I will be spending with the UR group in October.

2. Blake and Zisis will look into understanding the degradation in energy resolution (especially the floor term) for angles between 10 and 20 degrees for z-positions near the read out end of BCAL. A list of appropriate runs will be prepared and simulations will be run. Do the simulations show the same results?

3. Alex will use the parametric M.C. to look at the effect of Blake's current results on pi0 and eta resolutions for several of our signature reactions.

4. We need to focus on understanding the energy dependence of the time difference resolutions observed by Blake - it seems to depend on 1/E rather than the expected 1/sqrt[E]. Blake will work on this.

5. We also need to understand the TOF capabilities of BCAL and the impact on insuring pion purity. At the last workshop we dismissed BCAL for pi/K separation based on worst-case scenario estimates based on Christine's/Elton's estimates using cosmics data and the shortest flight path. The full GEANT-based simulation using impact point for pions and kaons and longer flight path before and in BCAL for pions and kaons (rather than muons) must be studied. Alex and Zisis will work on this.

6. We will have weekly phone conferences to review progress.

Please make corrections/additions to this summary.

Cheers
Alex

Partial List of Issues for Discussion (modified Aug 29)
BCAL Test Data Analysis

August 28, 2007   12:00 noon EDT

Energy Calibration
    Monte Carlo
  minimization technique

cosmics data

Energy Resolution as a Function of
  position
      angle

Timing Calibration
calibration
    time walk correction

Mean Time Resolution
      tagger contribution
    beam size contribution
  photon data
    cosmics data
    implications for GlueX PID

Time Difference Resolution
    photon data
    cosmics data
    translation to position resolution

Other Issues
  sampling fraction
      pattern recognition
      estimating number of photoelectrons (cosmics data)
      speed of light in fibers
      attenuation length

Monte Carlo Validation
      energy deposition per layer - data vs simulations
          as a function of angle

Milestones
    collaboration meeting report
  GlueX-doc
      publication

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