General Status of the Data Analysis Framework
PrimEx Collaboration Meeting

Mark Ito
July 29, 2005

Achievements

- Tagger Timing Calibration: Eric

- HyCal Reconstruction: Ilya

  - depth correction for shower position

  - non-linear gain corrections

  - mass constraint for pair energy determination

- Veto Reconstruction and Calibration: Mike W.

- LMS Calibration Correction: Dustin, LaRay

- Time/Live-Time Scaler Anomalies Solved: Aram

- Luminosity pass: Aram

Achievements (cont.)

- PrimEx Beam Profile Monitor Analysis: Mike G.

- Trigger Composition Survey: Letisha

- Pedestal Stability Study: Nick

- Structural Elements
  - Errors, return codes and exceptions
  - Configuration Files
  - Etc., Etc.

Status: Reconstruction and Calibration

- HyCal

  - energy calibration
    * basics done
    * LMS scheme
      · come up with one
      · data full of anomalies
      · utility needs to be demonstrated/disproved
    * other refinements possible
    * rate dependence not well studied

  - time calibration
    * done(?)
    * refinements(?)

Status: Reconstruction and Calibration (cont.)

- HyCal (cont.)

  - cluster reconstruction

    * basic templates done

    * can templates be optimized?

    * position

      · log weighting basic scheme in place done

      · non-linearities not addressed

      · transition region effects

    * timing

      · poor granularity of channels

      · complicated analysis

      · algorithm phase-space reduction

Status: Reconstruction and Calibration (cont.)

- tagger

  - time calibration done

  - energy-scale calibration
    - ∗ CLAS-generated corrections in hand
    - ∗ electron beam energy dependence?

  - re-examination of basic paradigm?
    - ∗ tagger channels vs. tagger counters
    - ∗ E-counter based or T-counter based?

Status: Reconstruction and Calibration (cont.)

- veto

  - time and energy calibrations done

  - basic reconstruction done

  - probably adequate

Status: Other Topics

- normalization

  - RF trip elimination

    * several proposals

    * demonstration of effect?

  - rate dependence studies: not seen

  - tagger re-reconstruction consequences

  - target thickness determination: how?

- beamline devices:

  - nA BPM's: untouched

  - PrimEx Beam Profile monitor

    * fit to profiles done

    * absolute normalization needed

Status: Other Topics (cont.)

- monte carlo: not much activity

  - full detector simulation

  - parametrized simulations

  - standalone codes

- Standard physics cuts: we plan to have them

  - π^0

  - Compton

  - e^+e^-

Near-term goals

- get_pair function: standardized algorithm(s) for time correlations

  - cluster-cluster

  - cluster-tagger

- Beam Position/Alignment Paradigm

- Bookkeeping Integration

- HyCal Reconstruction Refinements

  - 1 shower vs. 2 showers

  - missing energy correction for clusters at edge

Long-term goals

• Review of Monte Carlo status, needs

• Systematics, Systematics, Systematics

• Tighten up management

– better setting of priorities

– shorter priority adjustment cycle

– closer involvement with workers

`$Id:$`