Offline Software Needs for CD-3

What is required of offline software (simulation and reconstruction) prior to CD-3?

- Test modifications being made to the existing design*(see next slide)* and provide evidence to defend them

- Verify detector works as a whole and can reasonably be expected to achieve the physics goals of GlueX
  - Map out acceptance and resolutions for a few “gold” channels

Design Modifications

- Gap Calorimeter(?)
- FDC Cathodes and Material
- BCAL Extension/Layering
- CDC Layering
- Start Counter / Target

Verification of Detector

- Acceptance (charged and neutrals)
  - Single particle
  - “Gold” Channels
- Resolution
- Backgrounds
  - Low energy
  - Accidentals
- L1 trigger

Backgrounds

Understanding our backgrounds and the form of a typical event is important for:

- Estimating event size
- L1 trigger efficiency
- Limits on luminosity due to pattern recognition

Summary of tasks

- Complete implementation of new geometry
- Check forward calorimetry gap
- If needed, implement gap calorimeter in simulation and test it
- Complete track finding development
- Compare baseline cathodes design with wires-only design
- Map single particle acceptance/efficiency and resolutions for all detector systems
- Map “gold channel” acceptance/efficiency and resolutions for all detector systems
- Level 1 trigger simulations
- Background, background, background