TCS (E12-12-001)

Draft Requirements for Run Group A:

* Beam: ≥ 10 GeV electrons, polarization > 70%
* Torus
  + Reverse the Polarity for one day out of every seven
  + Torus field ≥ 75% of maximum (still under study for impact on J/Psi resolution and acceptance)
    - GEMC/COATJAVA study at 100% field obtains sigma(MJ/Psi) = 48 MeV.
    - Earlier FASTMC studies obtained sigma~20 MeV.
    - Entire RG-A should participate in study of quantitative trade-off between acceptance and resolution. CLAS-6 experience not necessarily sufficient guidance.
* Luminosity Goal: 1.e35
  + ≤ 3% DC Occupancy
  + DAQ < 15 KHz
* Trigger Goals
  + Single Electron trigger (not including Forward Tagger)
  + TCS two-electron trigger (expect low rate: to be verified)
* Priorities if Occupancy and/or DAQ is exceeded:
  + Prescale Forward Tagger/Hadronic trigger to <20% of Bandwidth
  + Prescale Single Electron trigger at low threshold and include a non-prescaled Single Electron Trigger at high EC threshold (n.b. low-xB counts at high rate, probably not statistics limited).
* Effort needed this fall (from entire collaboration) to establish DC occupancy, trigger rates, trigger purities.
  + What strategies could improve electron trigger purity (CLAS was <10%)?