Exclusive, Diffractive, Tagging Working Group Benchmarks

- Still discussing amongst group. No final decision yet
- Next meeting Monday June 5th - plan to discuss more
- Exclusive group has many reactions, testing different regions of detector
  - Narrowing to one or two can not cover detector impact on achievable physics in this group which is far-reaching
- Our group has reactions which can test many regions of detector and beam line instrumentation
  - May make sense to see what areas other PWG groups cover first and then prioritise based on missing detector systems

- Initial ideas proposed:
  - Deeply virtual π^0 production e.g. from neutron in D_2 with tagging in FF region (important background, more challenging than DVCS)
  - Deeply virtual meson production decaying into charged pair

- On-going discussions:
  - Veto power in FF region for ePb→J/ψ incoherent diffraction
    - e.g. ratio of input BeAGLE events to those which survive veto attempt as function of t, with and without photon detection
    - Sensitive test for tagging in all instruments of FF region
  - Meson production:
    - different mesons probe different topics, each with own challenges for detector, selecting one channel is restrictive
    - e.g. soft kaons from phi decay and need for di-pion rejection, for upsilon want to separate three states over entire η, want to study rho…
    - In general, very important to have widest η coverage since it maps onto x_B and we want to cover from very small to large (~1) x_B
  - We would like to encourage all members of the group to think about their own benchmark observables for all of their different reactions in general
  - The one most likely to be ready first is potentially BeAGLE and FF region