Year 1 project pretty clear.

- Install codes & interface to Detector Simulation
- SIDIS/parton propagation (DPMJet-Hybrid)
  - Measure "d" & "b" resolution for Au and/or Pb
  - Propagation physics w/ geometry tagging.
- Coherent diffraction tagging
  - Run Sartre for Au and/or Pb
    - Question: Study all Vectors ($J/\psi,\rho,\phi$) in year 1?
  - How well can we tag coherent diffraction at JLEIC?
    - Does GEMINI handle "quasi-coherent" well?

Technical questions on Sar*t*re

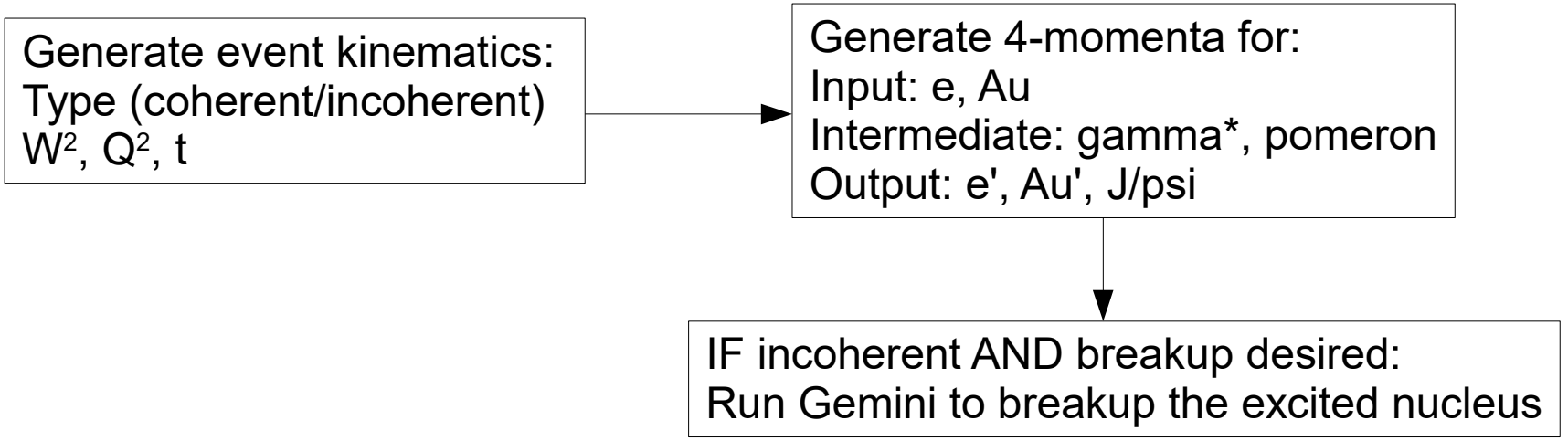
- How well does Gemini handle the incoherent channel Charles is interested in:
  eA $\rightarrow$ e' V A'$\rightarrow$e' V A γ ?
- Are the existing Pb (or Au) tables accurate enough as they are or do they need some extra "regions" added?
  - $|\mathcal{A}|^2$ & $|\mathcal{A}^2|$ tables cover (W^2,Q^2,t)

Parts of Year 2 are in focus

- SIDIS
  - Adapt to JLAB12
  - Run on lighter nuclei (say Ca)
  - Upgrade code to "3D" Glauber for U
    - Relatively straightforward. AA examples exist.
- Coherent diffraction
  - Lighter nucleus to try and "turn off" effect &/or shift Q^2 value where effect happens.
  - Lighter nucleus to try and catch the actual scattered nucleus? (CHARLES)

Centrality in incoherent diffraction is a big project – beyond our scope.

Simplified Sar*t*re event flow



Problem 1: Incoherent diffraction has:

- No event-by-event Glauber geometry for struck proton.
- No intra-nuclear cascade to further excite nucleus beyond initial scatter.

Problem 2 (actually the biggest problem):

- Existing cross-section tables integrate over b.

Possible fallback

Is the VMD in Pythia 6.4 good enough to get a rough estimate of σ(b) and σ(d) without claiming we understand saturation and b-dependence of incoherent diffraction?

In principle this is already in DPMJetHybrid...