

# The Brick - Next Steps

- WHDG - ASW
  - Resolve differences between two implementations of opacity expansion.
    - ➡ Theoretical work, brick not needed(?)
    - ➡ Impact of small-x approximations
    - ➡ Evaluation of impact of multiple gluon emission & energy conservation
  - Per Berndt's comment & subsequent discussion yesterday, go to brick of fixed medium properties, not equal  $\langle \Delta E/E \rangle$
  - More systematic comparisons needed
    - ➡ ASW data files needed

# The Brick - Next Steps (2)

- AMY comparisons
  - Need to make the comparisons
    - ➡ Helpful to make data available (then MVL, BAC,...) can contribute.
  - How to evaluate the impact of lack of vacuum radiation?
    - ➡ Compare similar formalism (BDMS/ASW) with and without vacuum radiation.
  - How to test critical AMY assumption re: coherence lengths?
  - Apple-to-apple comparisons of  $P(\epsilon)$ ?
  - Description of the medium (gluon vs realistic)

# The Brick - Next Steps (3)

- Modified fragmentation functions
  - Make the practical decision to compare calculations using their natural output.
    - ➡ If Abhijit finds the way to work backward to  $P(\epsilon)$ , even better.
  - Use same KKP (code!) for all results.
- Parton showers
  - Need to compare PS and “analytic” calculations using equivalent implementation.
  - Availability of code(s)?
  - Need calculations analogous to analytic brick.