# QGP Brick: What to do next?

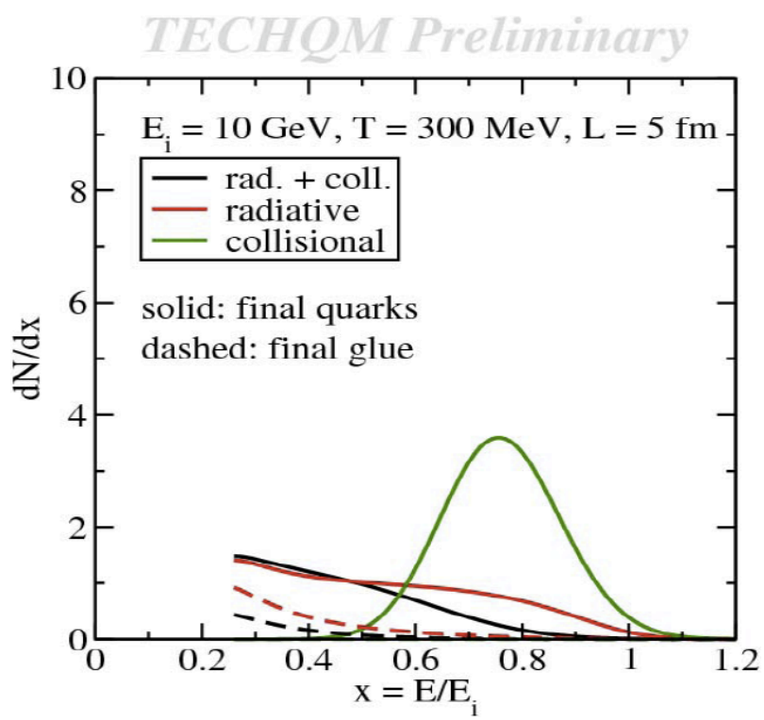
Redesign comparison schemes:

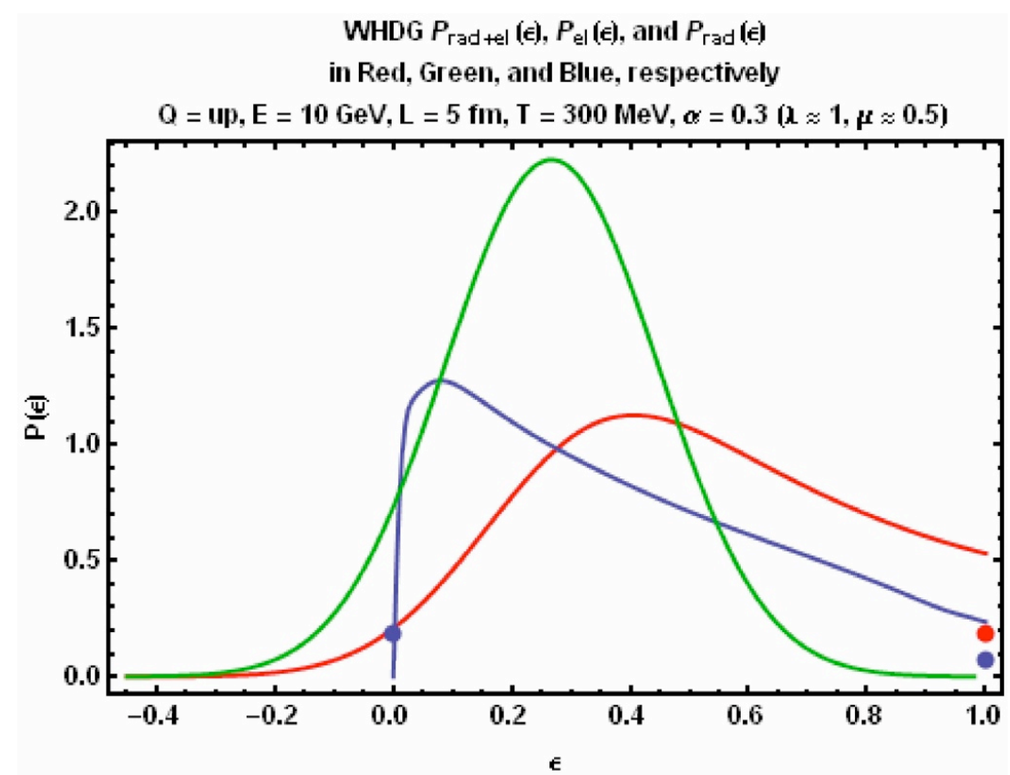
- $\Delta E$ Scheme:
  - Keep $\Delta E/E = \int dx\, x\, P(x)$ fixed
  - Intuitive, but overemphasizes poorly controlled $x \to 1$ region
- R scheme:

$$R(p) = \frac{\int dx\, dz\, f\left(\frac{p}{(1-x)z}\right) D(z) P(x)}{\int dz\, f\left(\frac{p}{z}\right) D(z)} \longrightarrow \int dx (1-x)^n P(x)$$

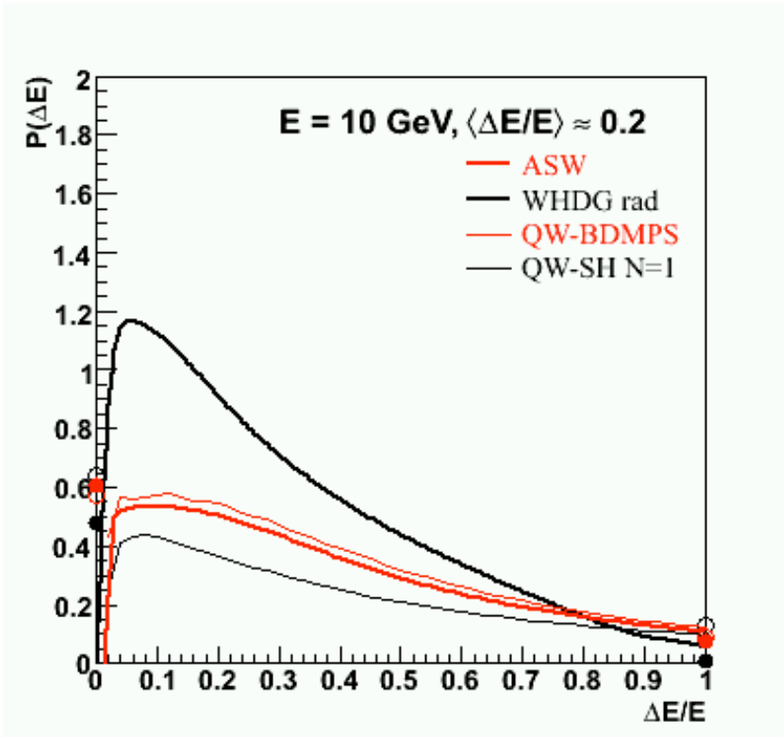
  - Strongly underweights $x \to 1$ region
- Compare directly $R_{AA}$ with correct hadronization

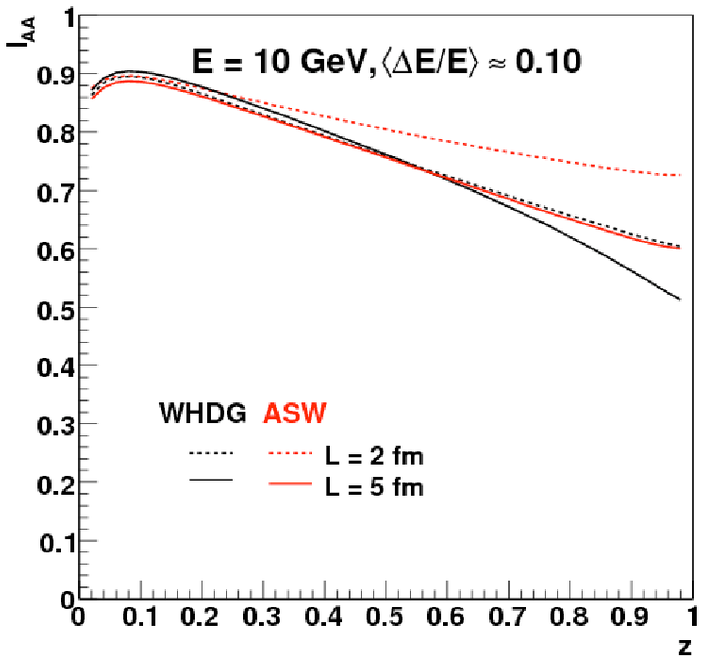
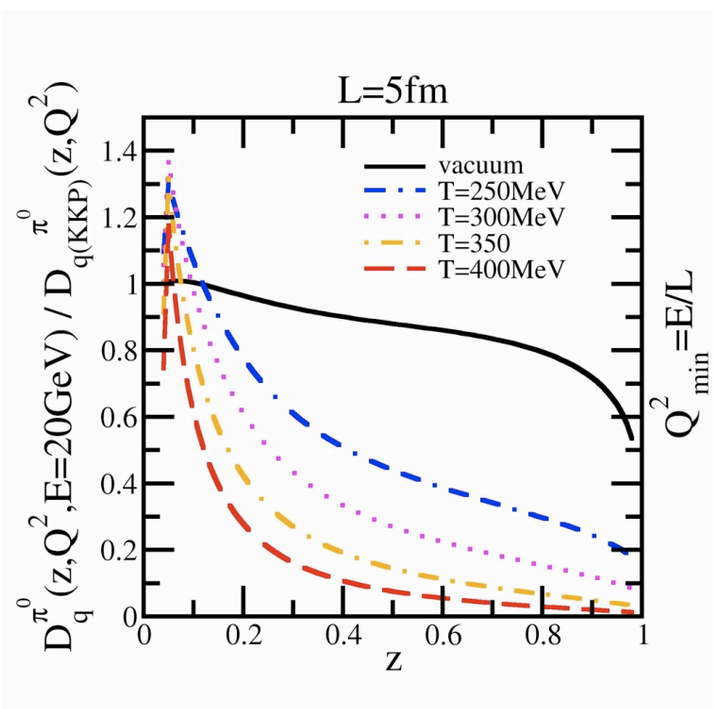
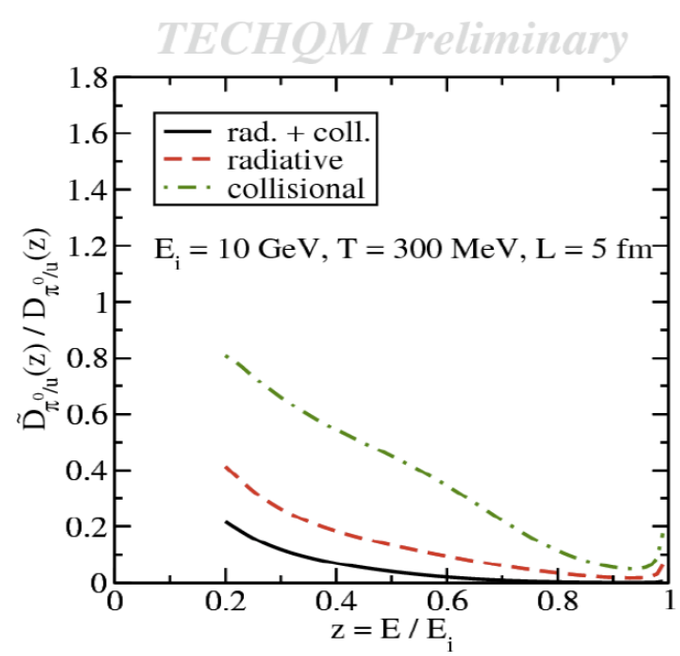
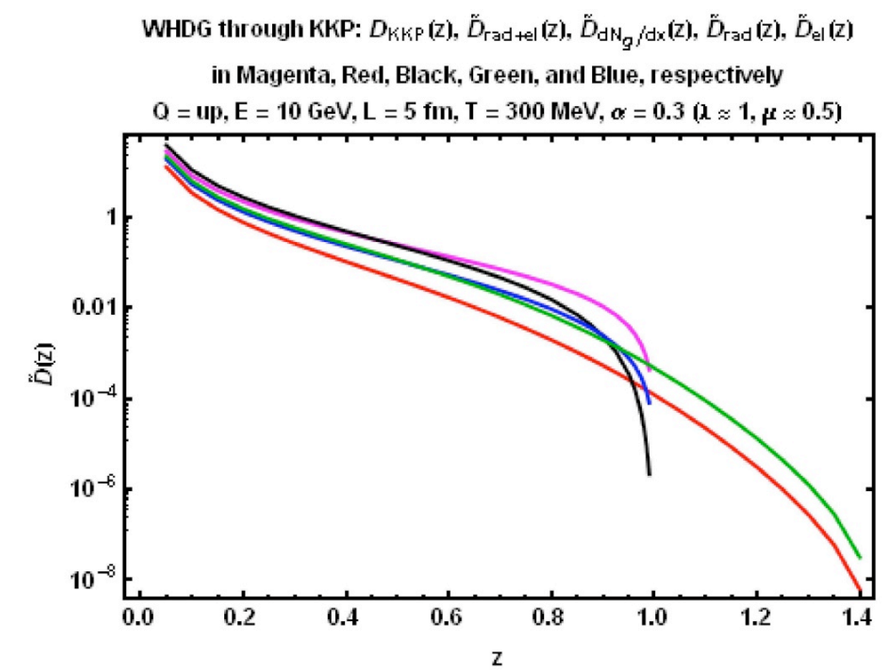
- WHDG and AMY are directly comparable:
  - Calculations can be done for same E, L, T, $\alpha_s$. Compare the same observables in the same figure.
  - Make sure that apples are compared with apples: gluon medium only, check whether groups agree on q-hat (i.e. $\lambda$ and $\mu^2$).



- WHDG and ASW are directly comparable:
  - Calculations can be done for same E, L, $\alpha_s$.
  - Compare in $\Delta E$ and in R schemes, and after $R_{AA}$ after fragmentation.
  - Compare q-hat leading to same $\Delta E$, R.
  - Compare R for same q-hat.
  - Explore, if x(1-x) kinematic constraint can be implemented in ASW.






- HT, AMY and WHDG are comparable:
  - Calculations can be done for same E, L, $\alpha_s$, q-hat.
  - Compare $R_{AA}$ after fragmentation.
  - Fix $R_{AA}$ and compare q-hat for same E, L, $\alpha_s$.