



Key Measurements of HF and Jets in EIC

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04-20-2021

Heavy Flavor & Jets

- Species

- D^0 , D^\pm , D_s^\pm

- B, B_s

- Λ_c , Λ_b

- Measurements

- Mass spectrum: resolution, efficiency, S/B

- Wenqing (LBNL) : magnetic field effects on D meson reconstruction

- R_{eA} vs z_h : light vs HF, pseudorapidity dependence -- Xuan Li (LANL)

- Jet p_T spectrum: light vs HF jet separation



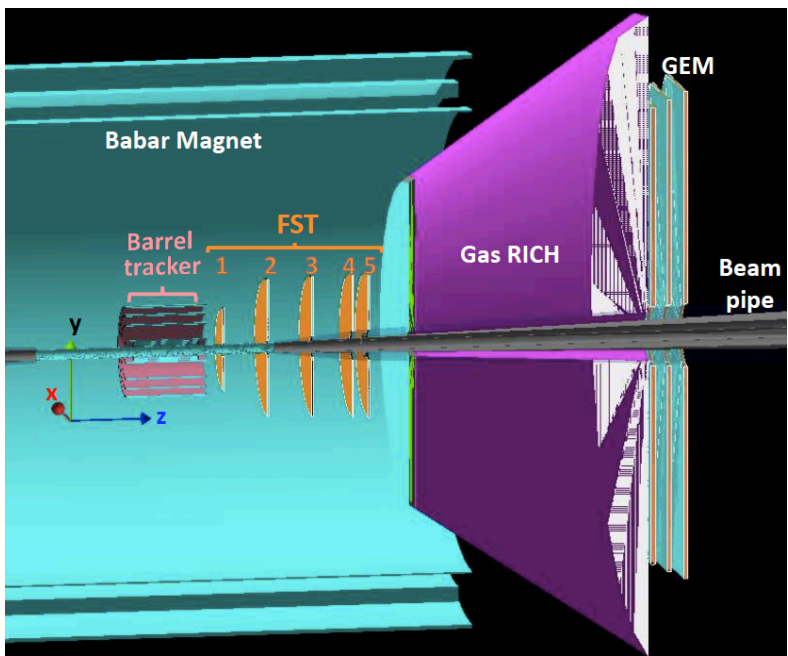
EIC Heavy Flavor studies with the Babar magnet

Xuan Li (LANL)

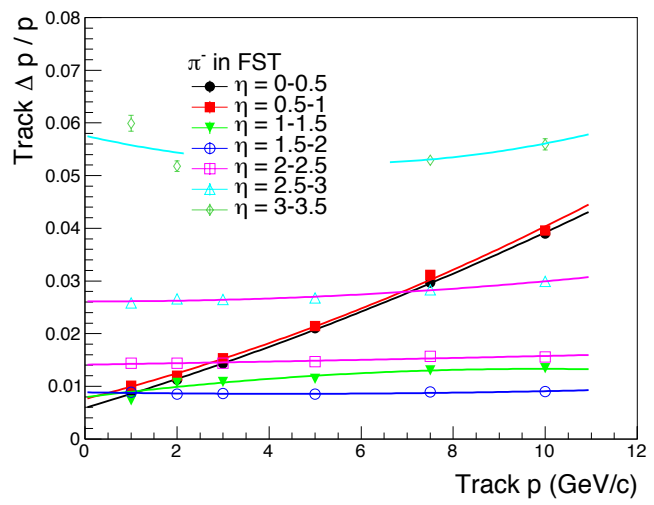


Detector simulation studies

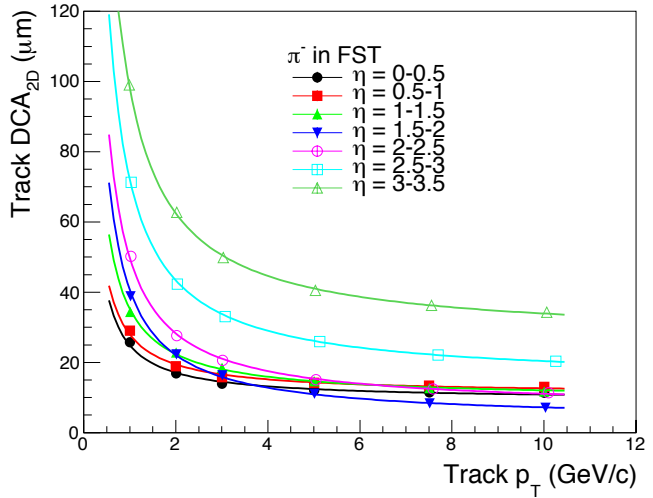
- Updated barrel geometry with the Babar magnet:



$\Delta p / p$ VS p

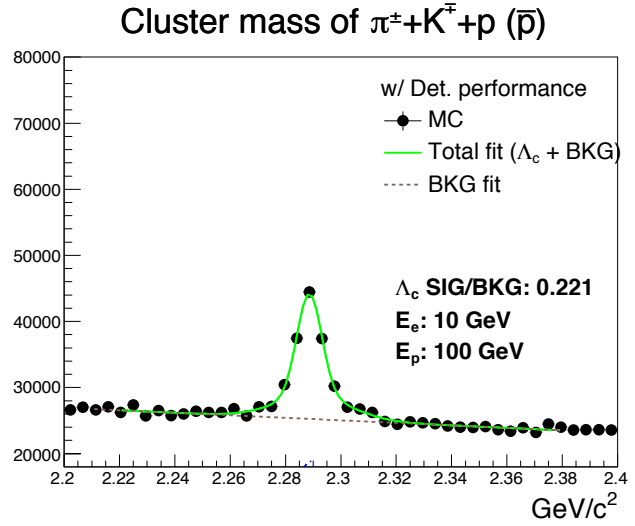
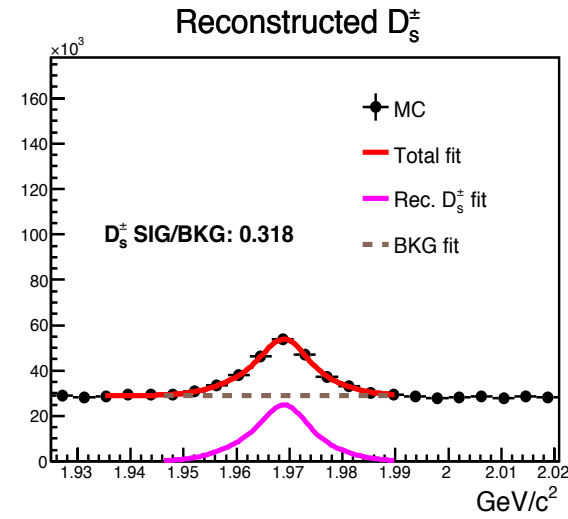
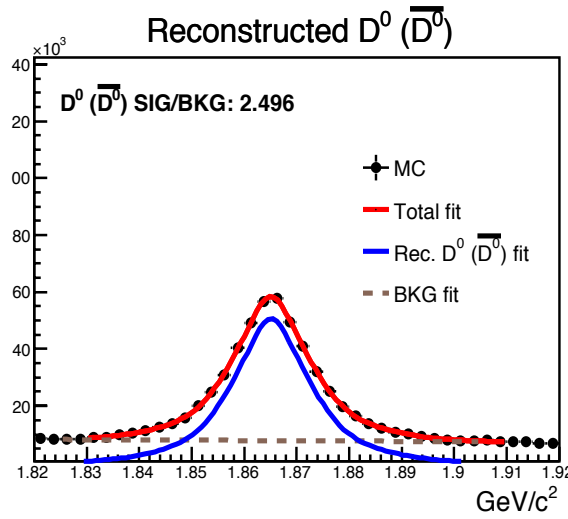
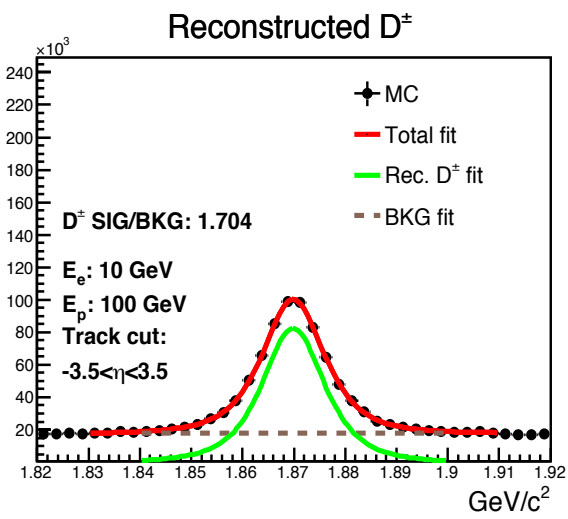


DCA_{2D} resolution VS p_T



Reconstructed D-meson with the Babar magnet

- Reconstructed D-meson and Λ_c mass spectrum in 10 fb^{-1} $10+100 \text{ e+p}$ collision w/ Babar magnet.



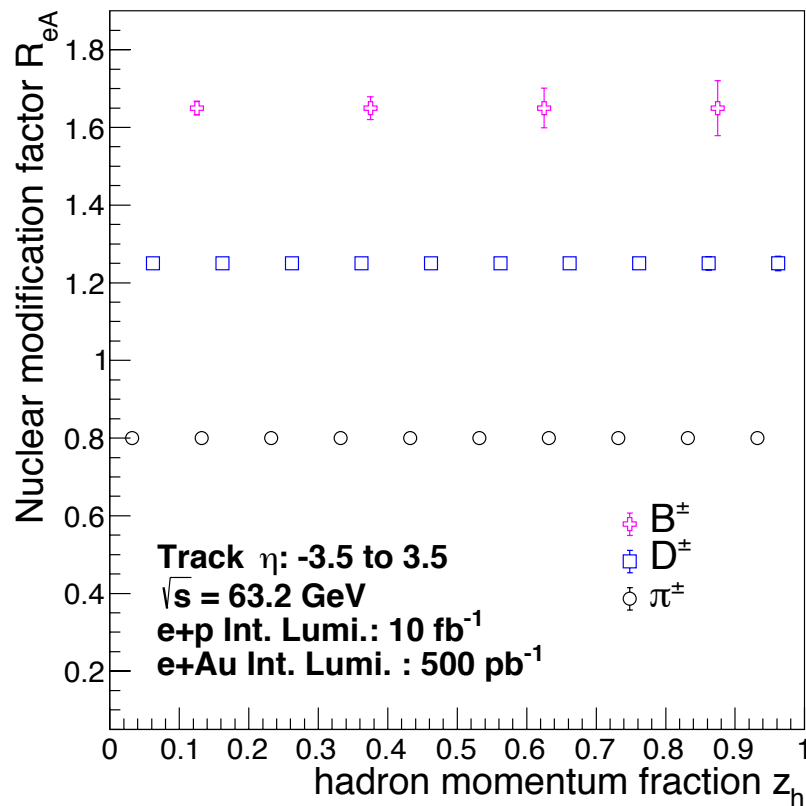
- Different detector geometries have been studied, and details are documented in [arXiv: 2009.02888](https://arxiv.org/abs/2009.02888).
- Could be updated with new ECCE detector performances.



Figure of Merits

- Hadron momentum fraction (z_h) dependent R_{eA} projection

Projected hadron R_{eA} vs z_h



Projected D^0 ($\overline{D^0}$) R_{eA} vs z_h

