

Tracking performance evaluation with the recent ECCE detector configuration

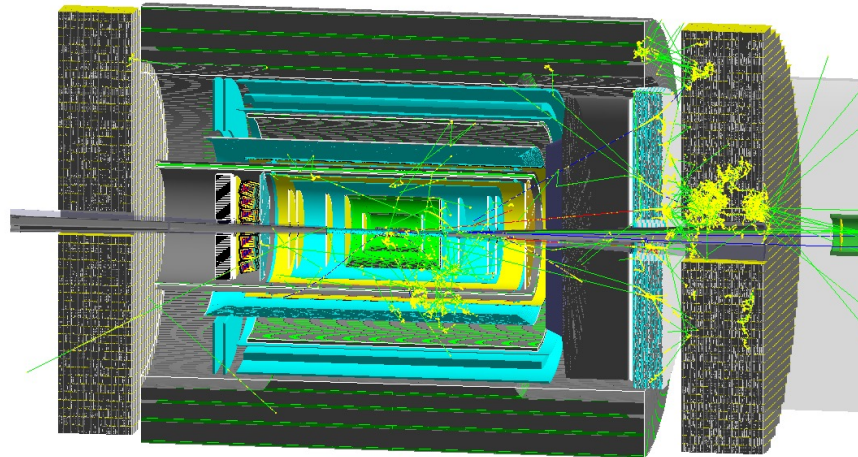
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Simulation sample and detector configuration

- Tracking performance evaluation with recent simulation production:
 - eicS3/eictest/ECCE/MC/new/5f210c7/General/particleGun/singlePion
 - eicS3/eictest/ECCE/MC/ana.14/5f210c7/SIDIS/pythia6/ep_18x100highq2

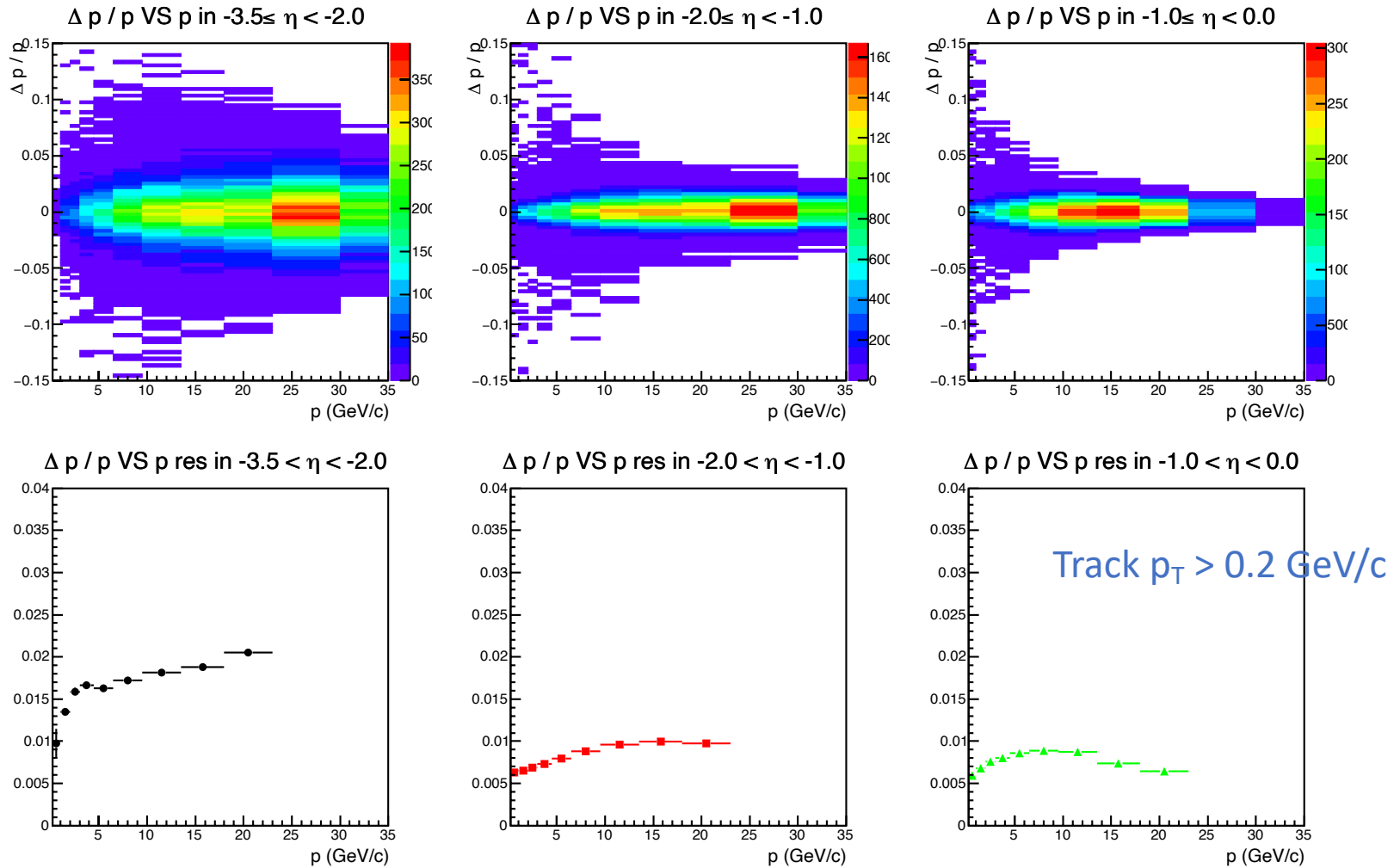
Latest ECCE detector configuration



Single pion events

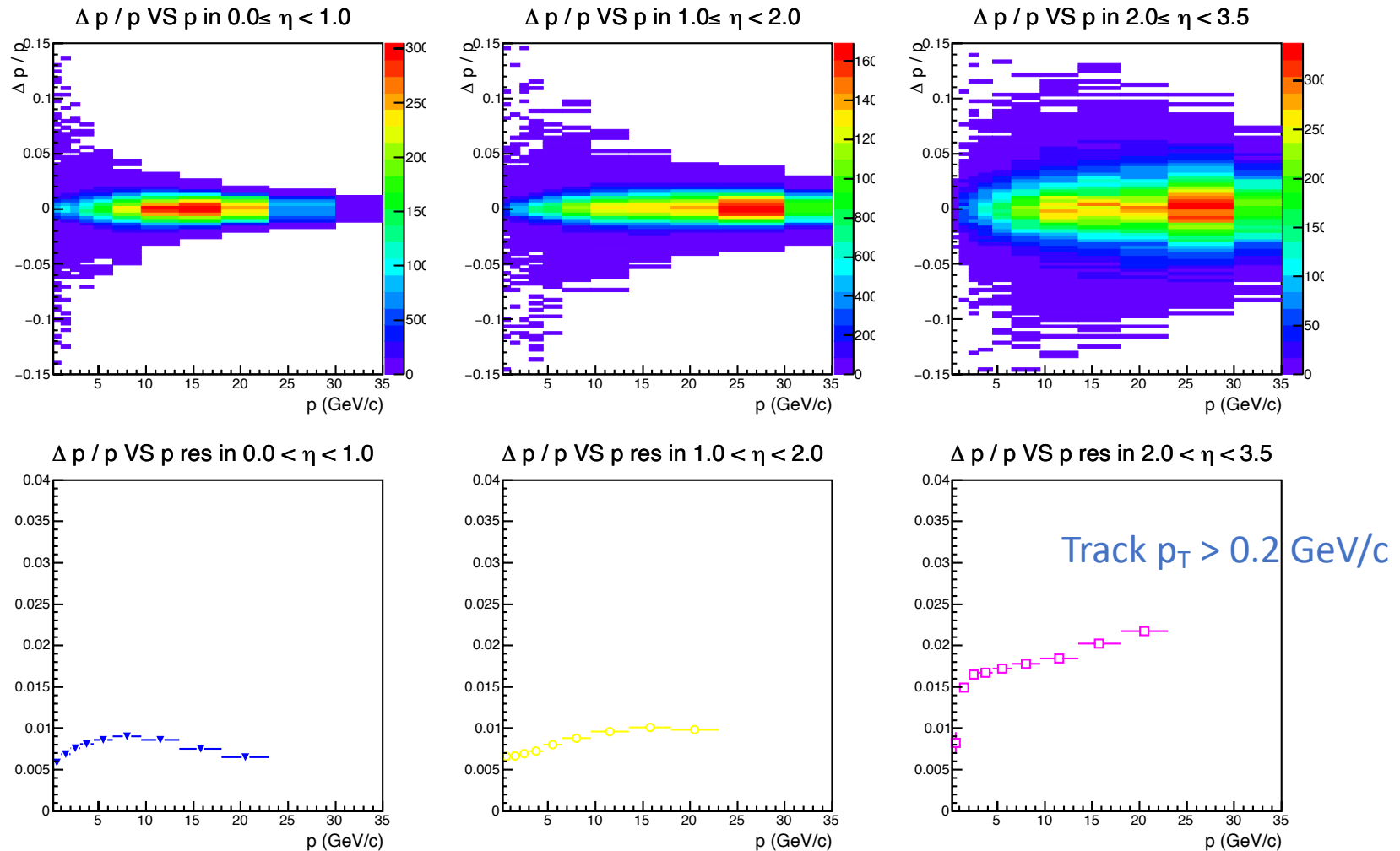
Tracking performance for the integrated ECCE detector

- Momentum resolution VS momentum using single pion events.



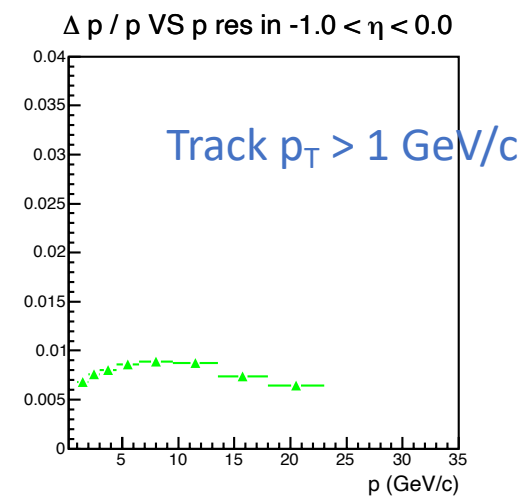
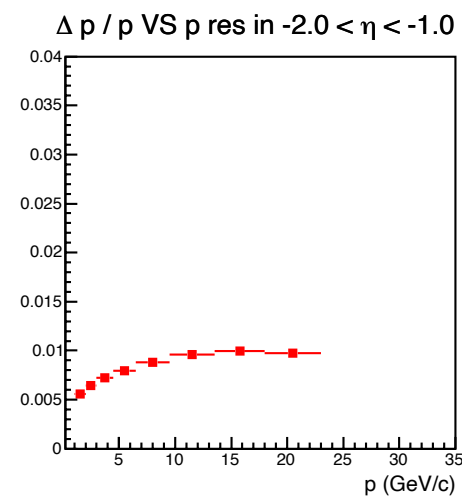
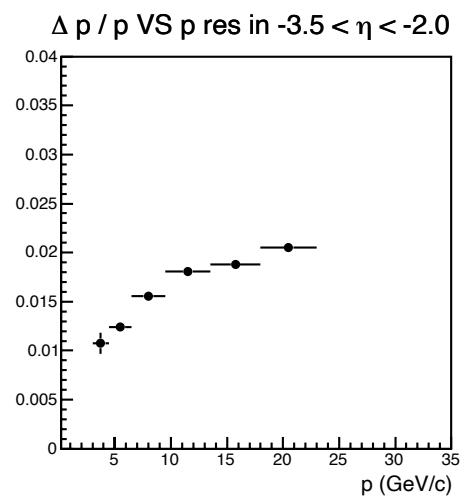
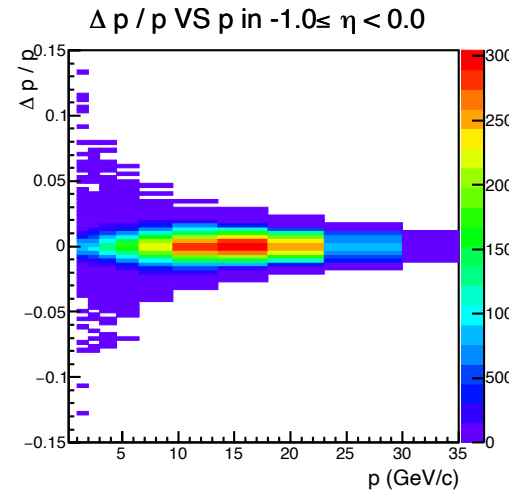
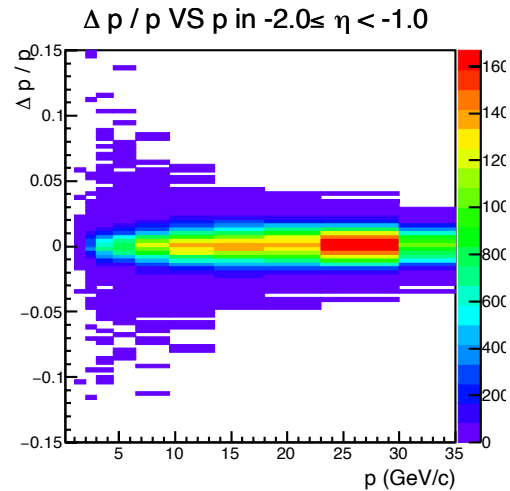
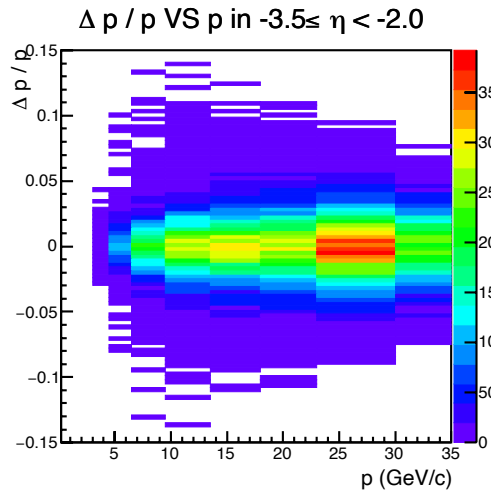
Tracking performance for the integrated ECCE detector

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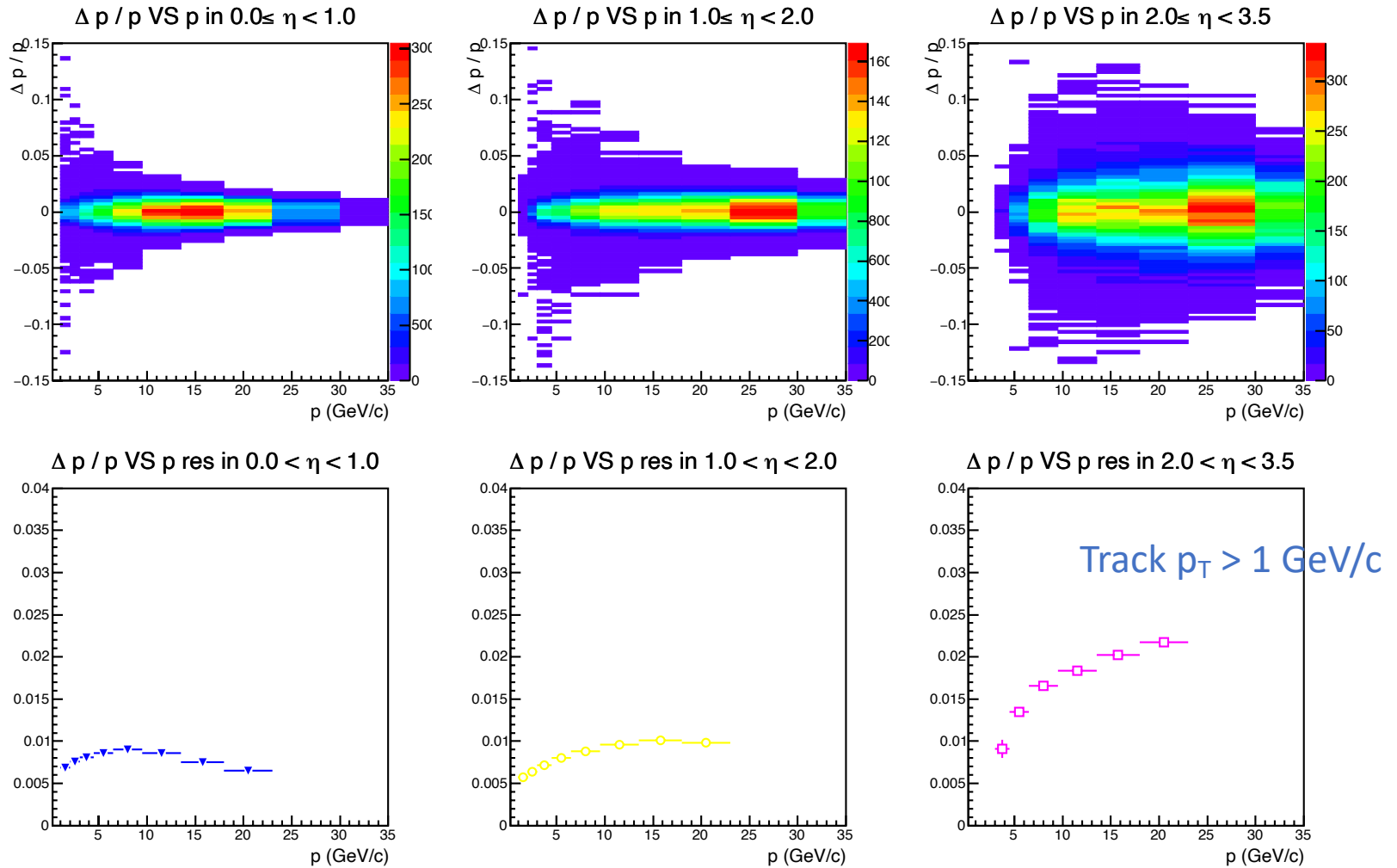
Tracking performance for the integrated ECCE detector

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Tracking performance for the integrated ECCE detector

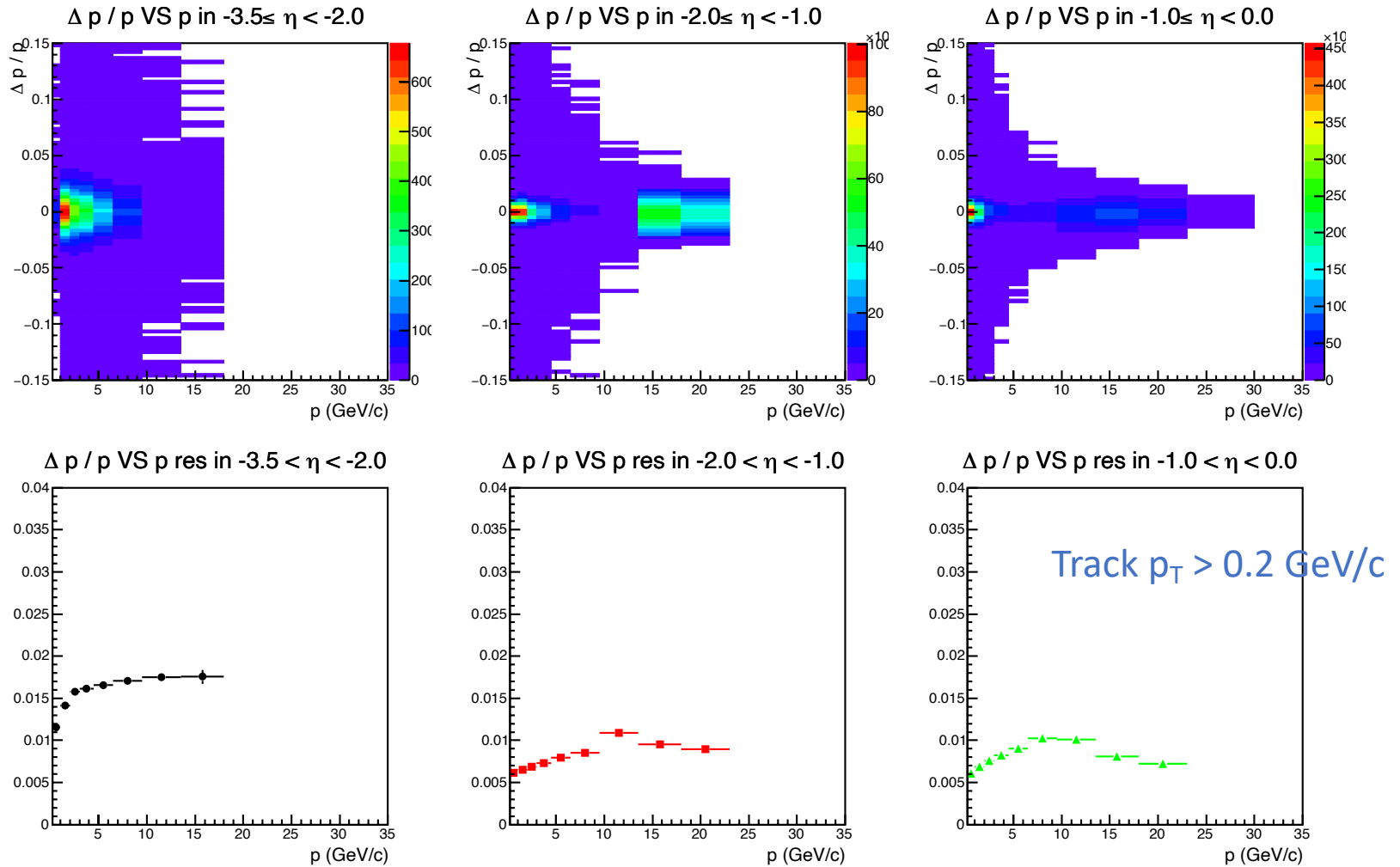
- Momentum resolution VS momentum using single pion events.



SIDIS high Q^2 events

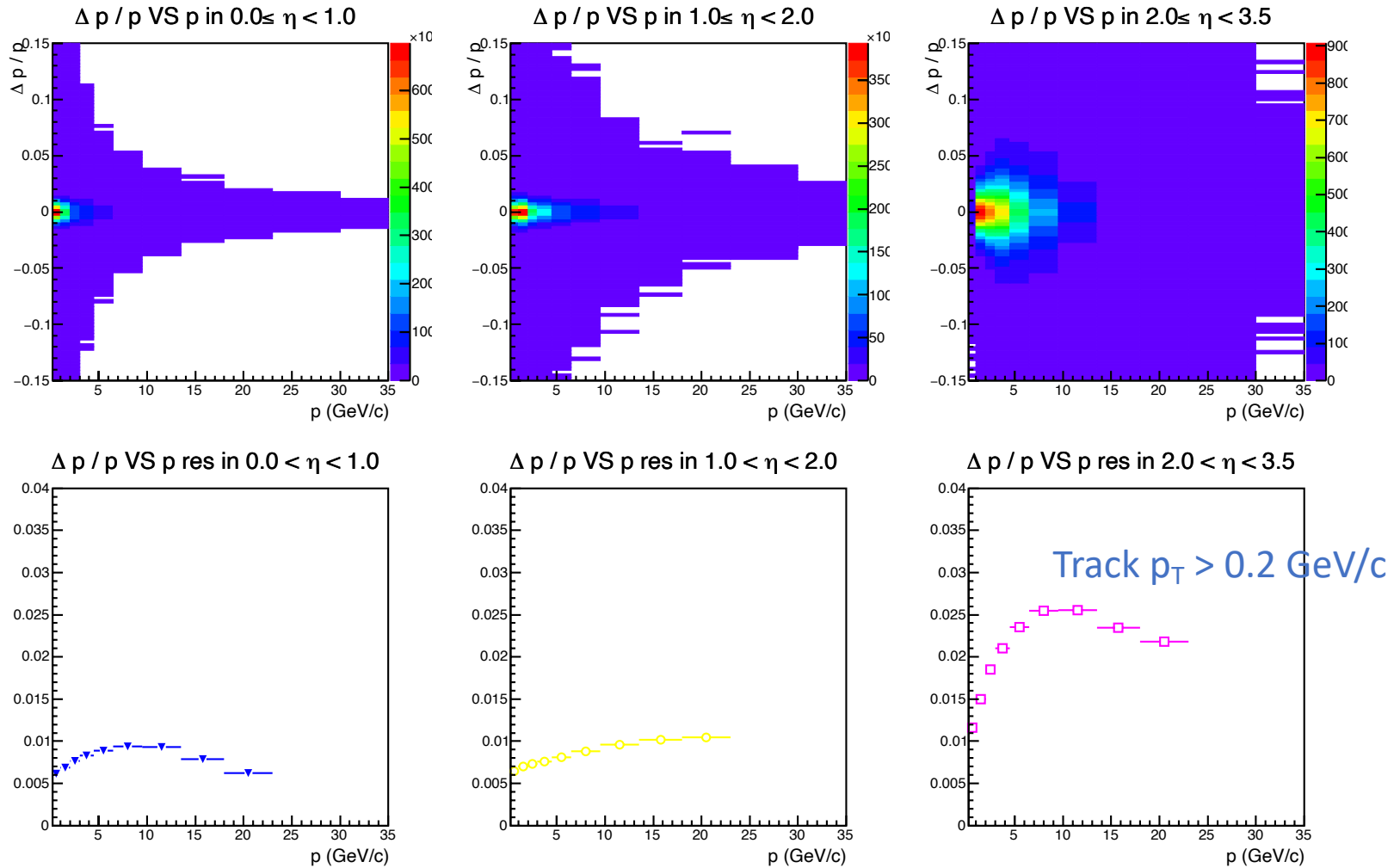
Tracking performance for the integrated ECCE detector

- Momentum resolution VS momentum using SIDIS high Q^2 events.



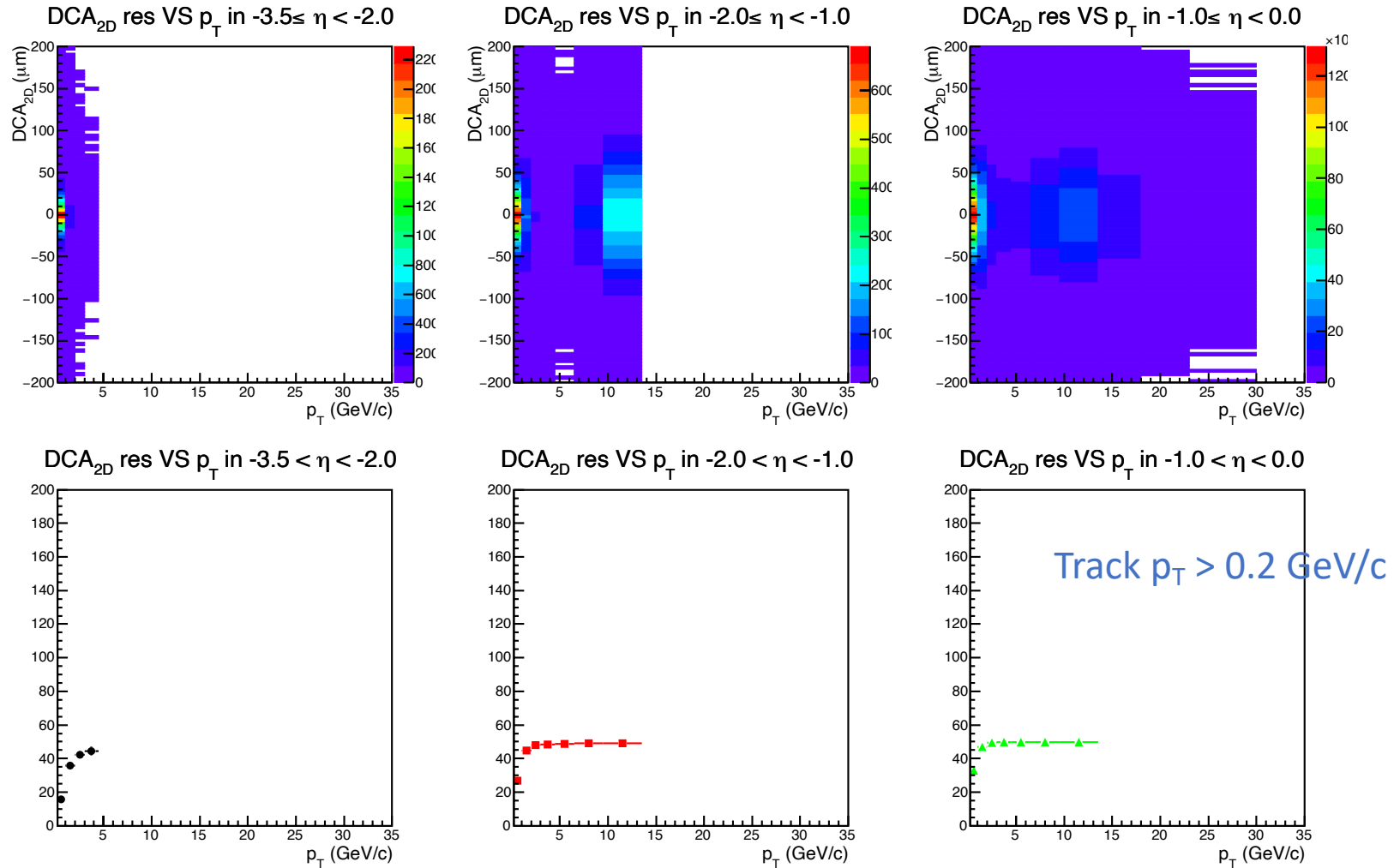
Tracking performance for the integrated ECCE detector

- Momentum resolution VS momentum using SIDIS high Q^2 events.



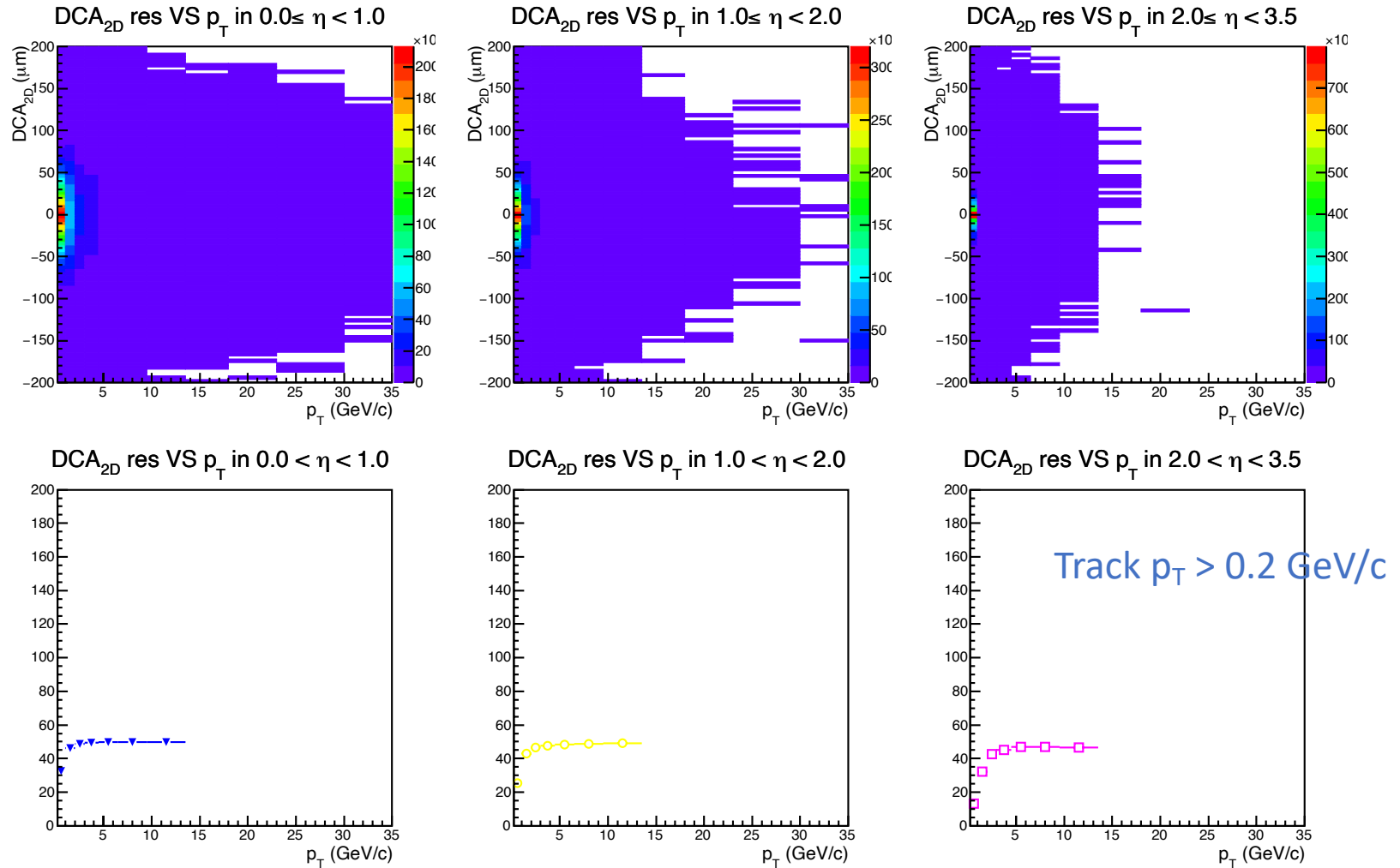
Tracking performance for the integrated ECCE detector

- DCA_{2D} resolution VS p_T using SIDIS high Q^2 events.



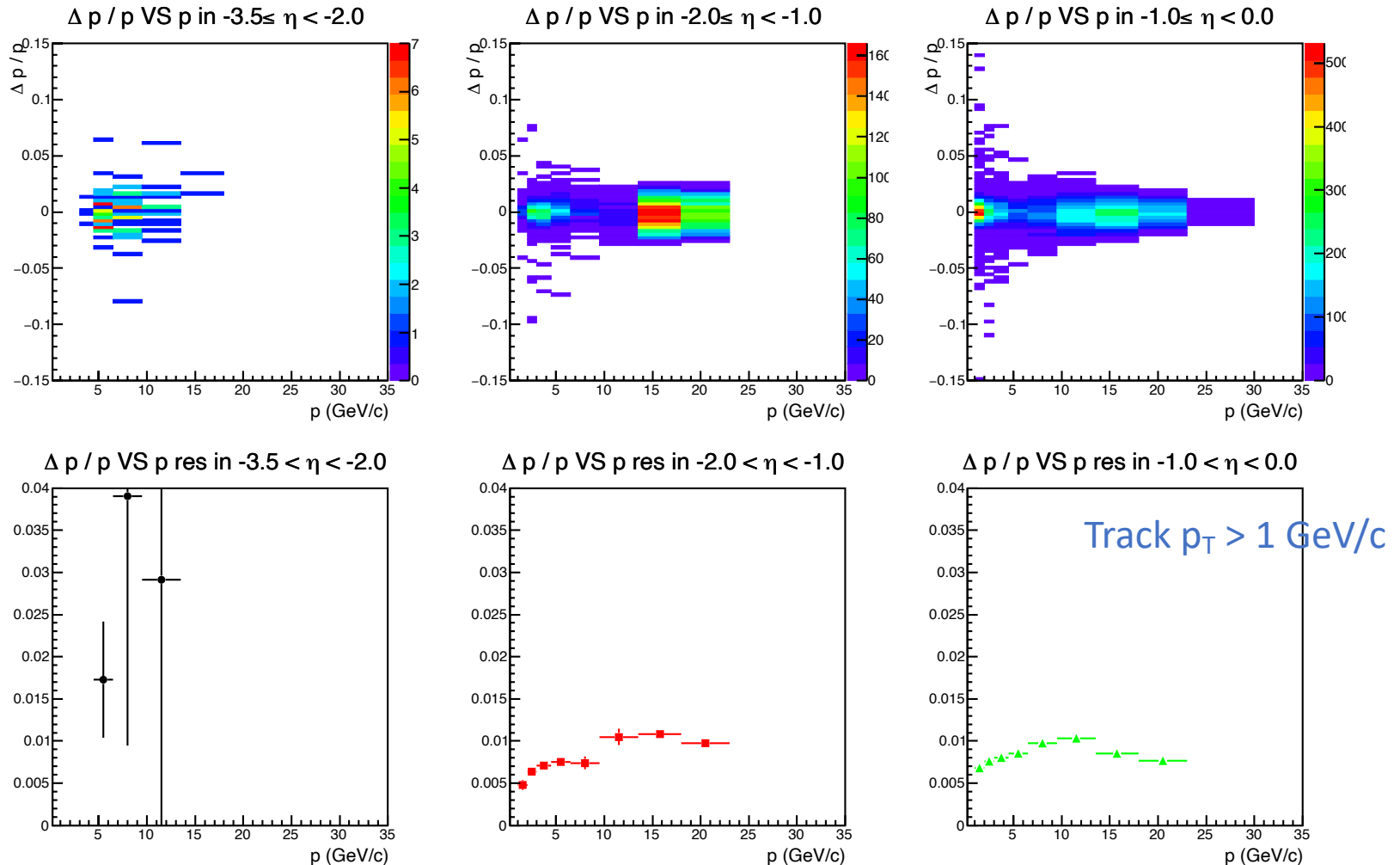
Tracking performance for the integrated ECCE detector

- DCA_{2D} resolution VS p_T using SIDIS high Q^2 events.



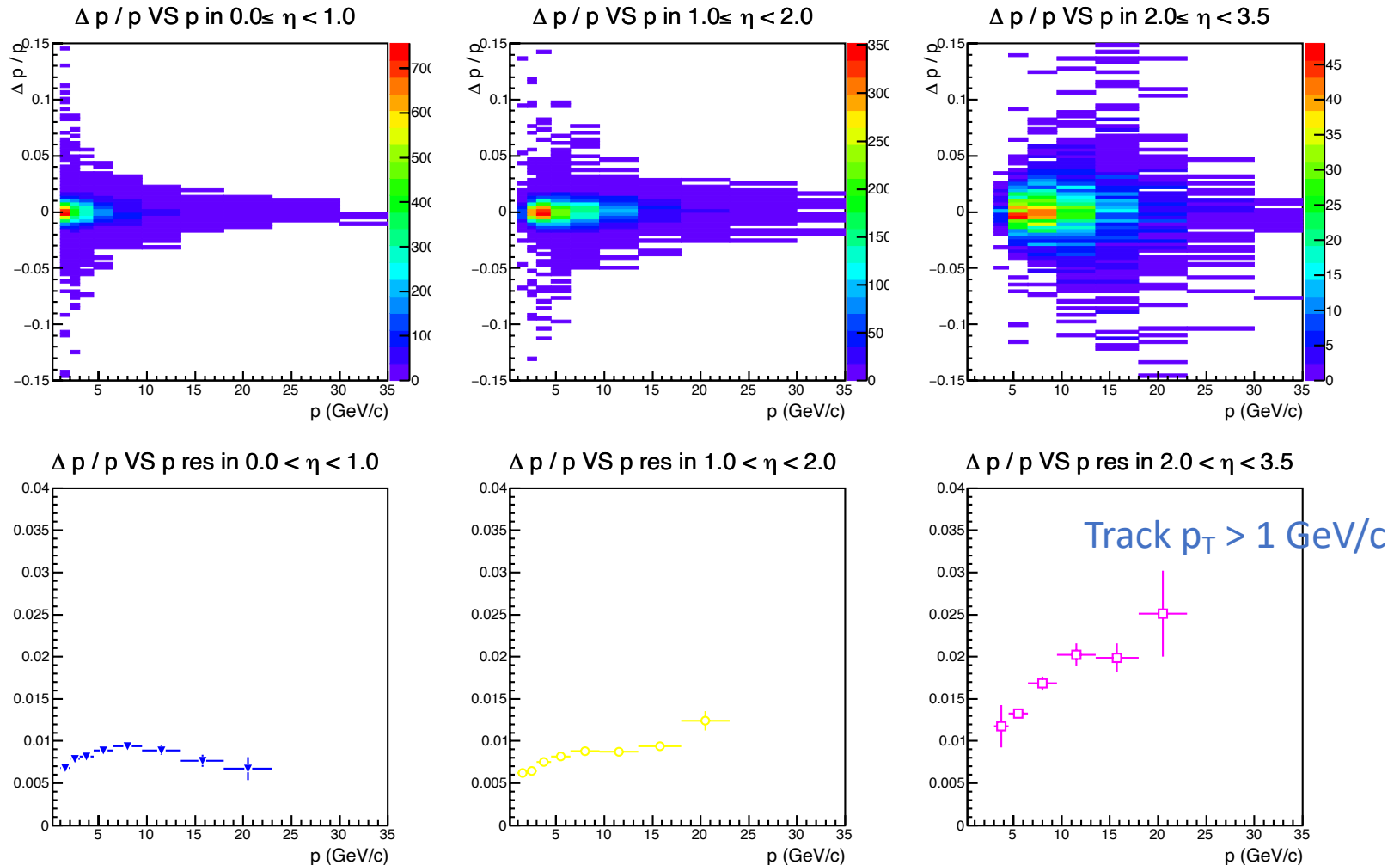
Tracking performance for the integrated ECCE detector

- Momentum resolution VS momentum using around 200k SIDIS high Q^2 events .



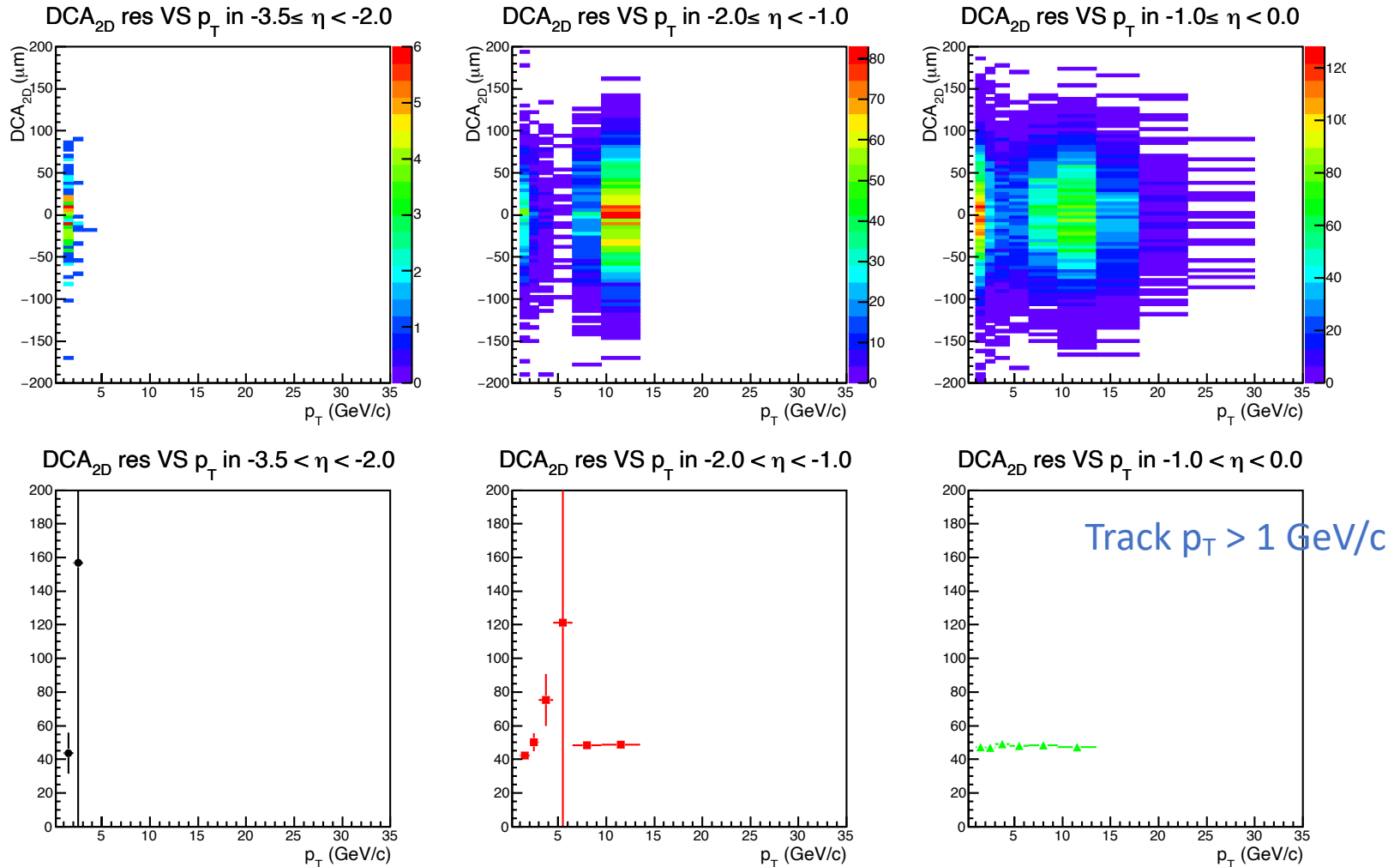
Tracking performance for the integrated ECCE detector

- Momentum resolution VS momentum using around 200k SIDIS high Q^2 events .



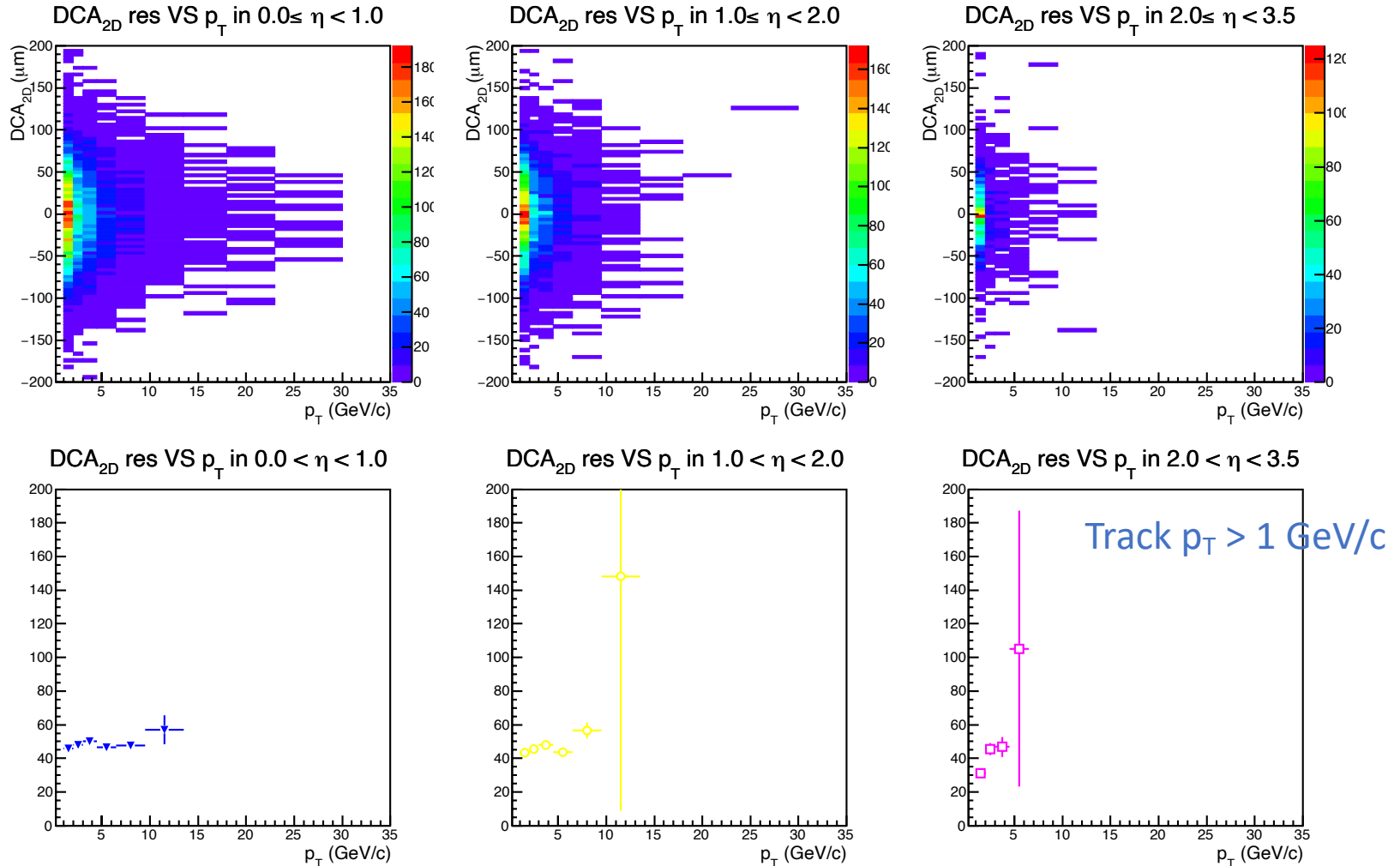
Tracking performance for the integrated ECCE detector

- DCA_{2D} resolution VS p_T using around 200k SIDIS high Q^2 events .



Tracking performance for the integrated ECCE detector

- DCA_{2D} resolution VS p_T using around 200k SIDIS high Q^2 events .



Summary and Outlook

- The tracking performance has been evaluated with both single pion and SIDIS high Q^2 events.
- Tracking momentum resolution with the current ECCE integrated detector looks good.
- It's better to update the primary vertex configuration and will re-check the dca2d determination.