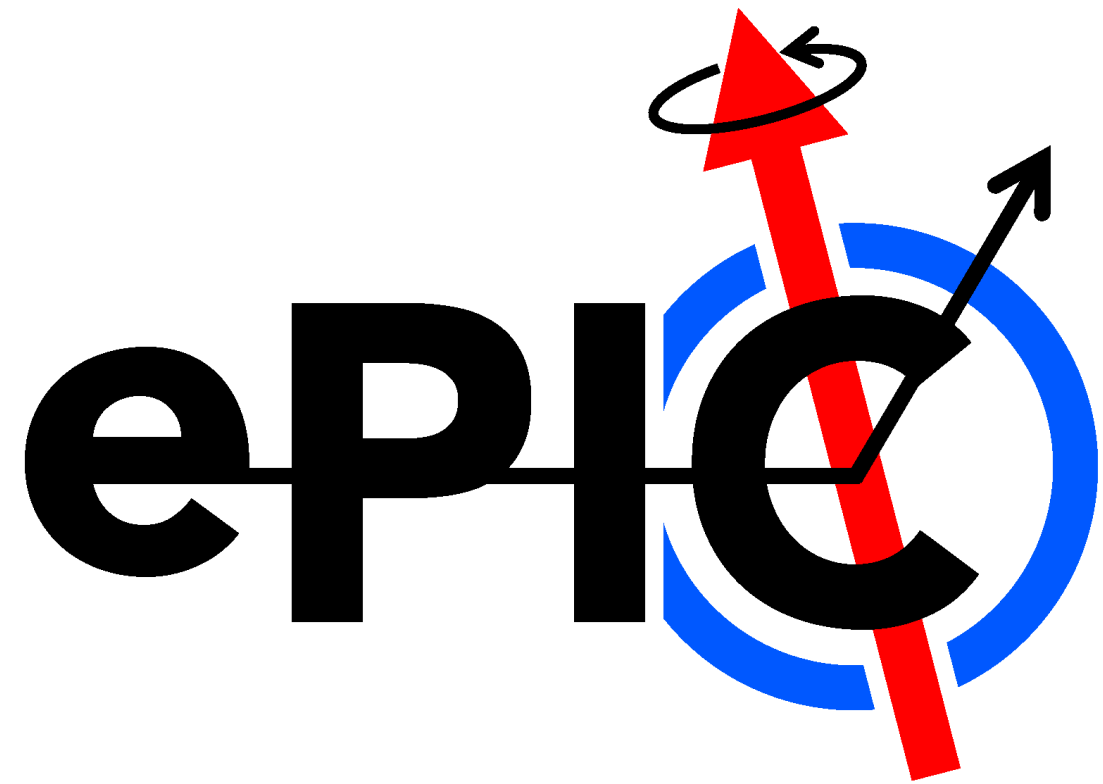


# Inclusive physics update

Tyler Kutz

ePIC analysis meeting

May 10, 2024



# Collaboration work-fest ideas

- Track projection relations
  - Implement reliable relations between track projections and tracks, within PODIO framework (in collaboration with tracking WG)
- Electron ID
  - Track-cluster matching (subject to track/projection relations)
  - Optimization of electron ID cuts ( $E/p$ ,  $E - p_z$ )
  - Including PID detectors in electron ID (subject to PID in EICrecon)
- Systematics
  - Kinematic resolutions (all reconstruction methods) and bin optimization
  - Electron purity/pion contamination studies (subject to working electron ID)
  - Calorimeter calibration

# Inclusive physics task updates

- Hadronic final state data type, algorithm/factory included in latest releases of EDM4eic and EICrecon
- About halfway done on fixes to inclusive kinematic reconstruction algorithms:
  - Identification of scattered electron (currently with truth, later from electron ID)
  - Calculation of hadronic final state
- Meeting with AUC collaborators on Monday for update on:
  - Track-cluster matching (from single electron simulation)
  - Resolution studies for electron energy reconstruction
- New collaborator from Stony Brook University (Win Lin) has volunteered to work on:
  - Generating eHe3 DIS events with Pythia8?
  - Double-spin asymmetries from existing simulation