

comparison

Cuts

Event cuts:

- $Abs(vz) < 70\text{cm}$
- $Vr < 2\text{cm}$

Track cuts:

- $dca < 3\text{cm}$
- $nHitsFit > 15$
- $ratio > 0.52$
 - Only in Eddie's code, not Zuowen's

Track cuts (cont.):

- $Abs(eta) < 1$
- $|P| < 2.8\text{GeV}$
- $0.4 < Pt < 2.0\text{GeV}$

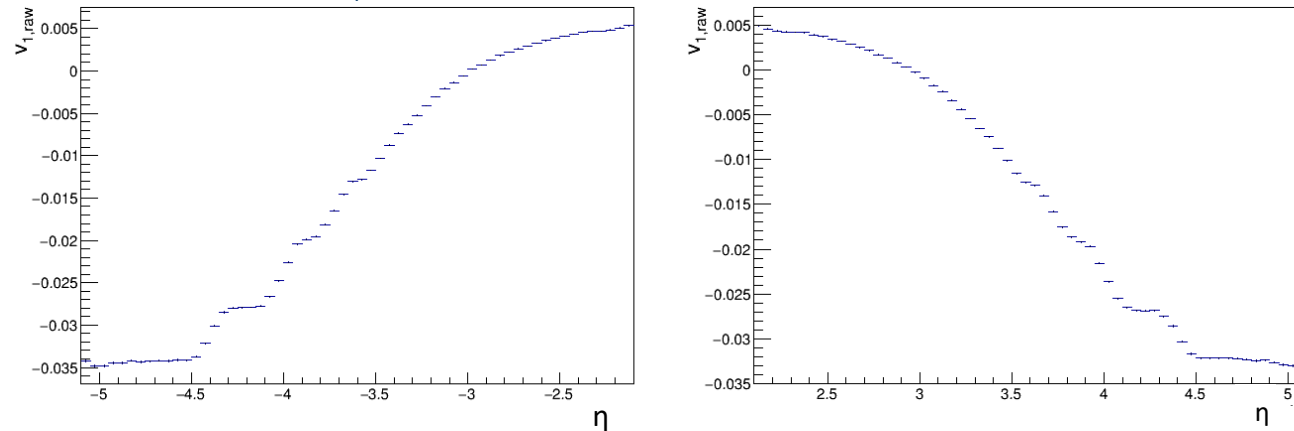
Proton PID:

- $nSigma dEdx < 2.0$
- $0.8 < Mass^2 < 1.0 \text{ GeV}^2$

Official bad_run list used for Eddie's, Zuowen has his own bad_run list based off different QA

Event Plane Calculation

- The Event Plane was measured by the innermost 8 sectors of the Event Plane Detector (EPD) based on number of Minimally Ionizing Particles (nMIP)
- Event plane was recentered and flattened in the standard way (flattened to 20th Fourier coefficient)
- At 19.6 GeV, the v_1 of the MIP signal changes sign at high η



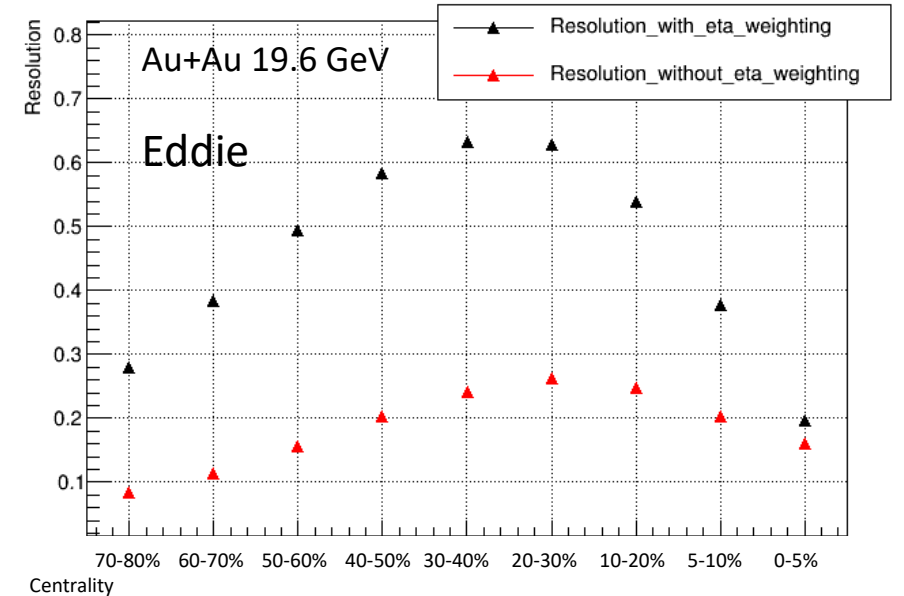
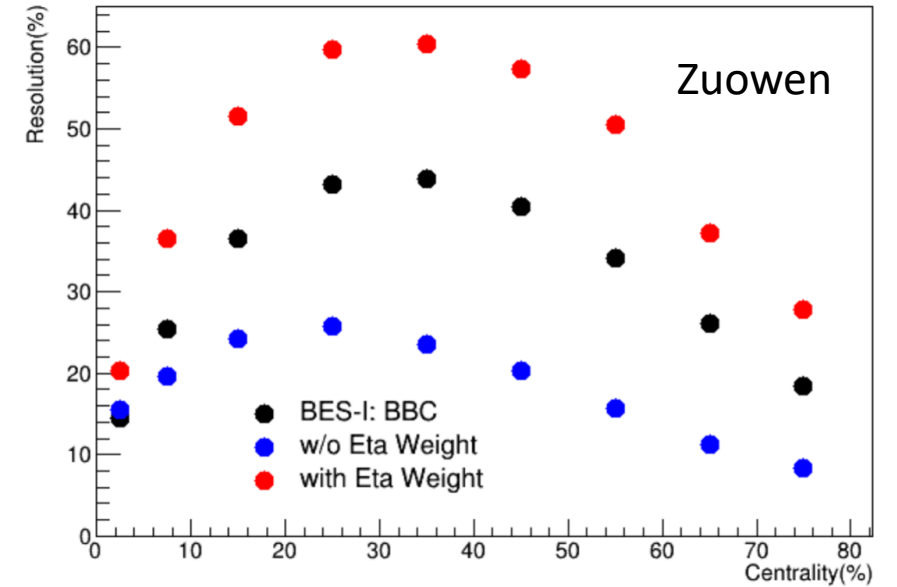
- To account for this, the EPD signal was weighted by the raw v_1 measurement

$$\vec{Q} = \hat{x} \sum_{i \in \text{tile}} w_i \cos \phi_i + \hat{y} \sum_{i \in \text{tile}} w_i \sin \phi_i$$

$$w_i = w(nMIP) * v_{1,raw}(\eta)$$

- This allowed us to significantly increase our resolution of the v_1 signal
- Zuowen uses same technique, but the weights are based on a 5th order poly fit of the v_{1_raw}**

Full EP Resolution



v1

