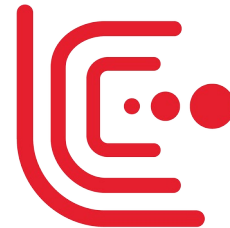
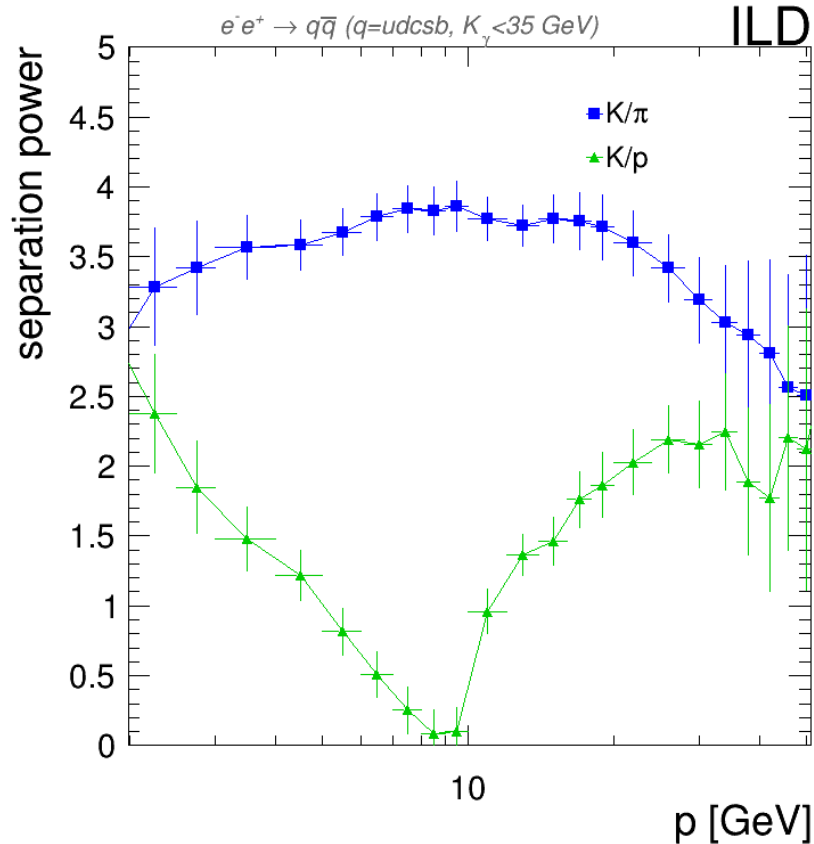


MC2020 2f samples

Adrián Irles
IFIC (UV/CSIC)



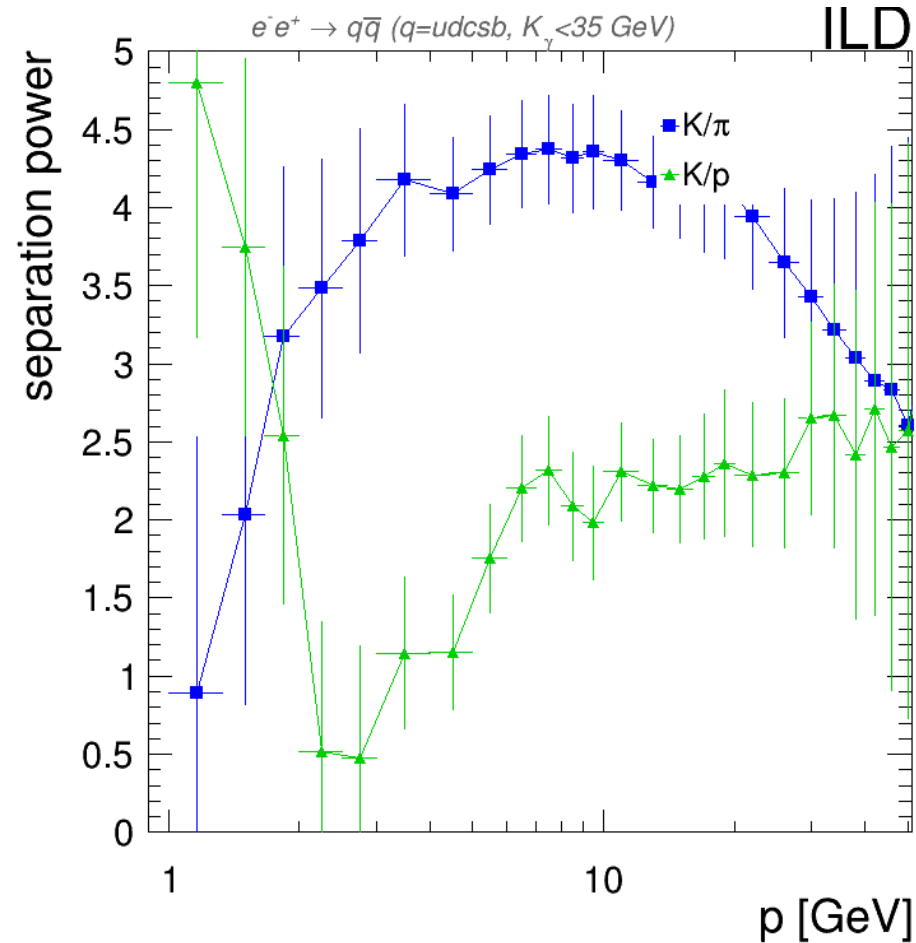


Last meeting

- ▶ Strange p/k separation
- ▶ I found an issue in relation between the reconstructed track and the most likely MC truth particle associated to it
 - We were treating some pions as if were protons (i.e. the dEdx of protons had the “proton” band + a soft “pion-like band”)
- ▶ Seems to happen for pions starting early showers (maybe even in the TPC)
- ▶ It is solved if we use the relation between LCIO Tracks and MCParticle instead of ReconstructedParticle and MCParticle
 - A bit surprising but probably not a bug

After correcting the Mctruth extraction

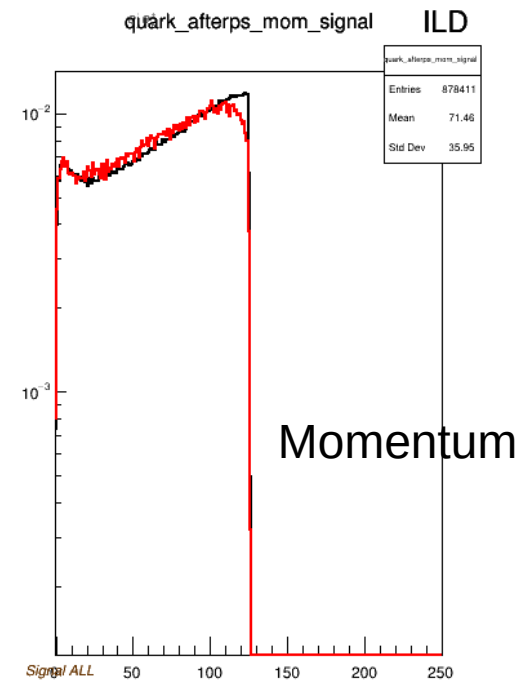
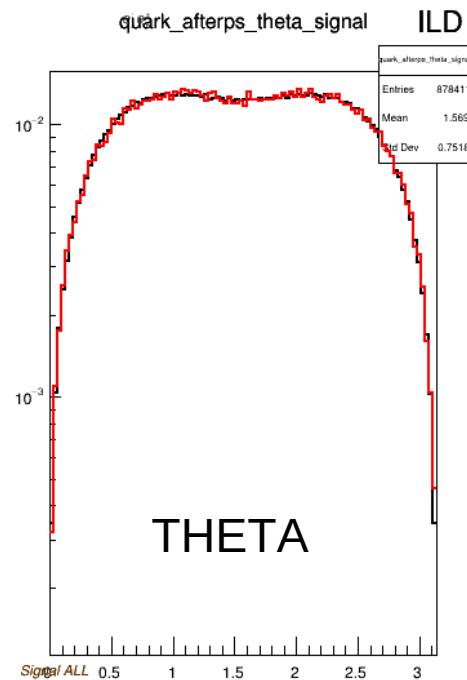
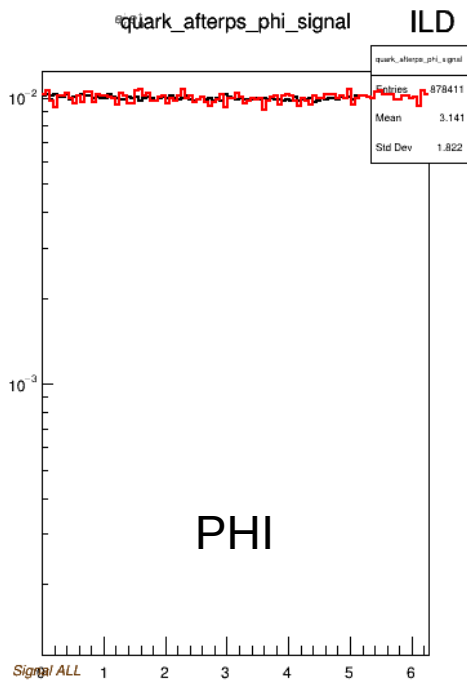
► as



Some DQ plots

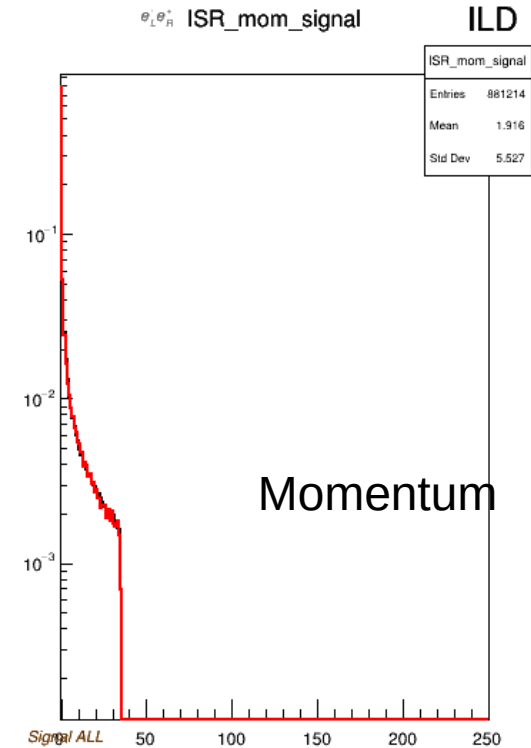
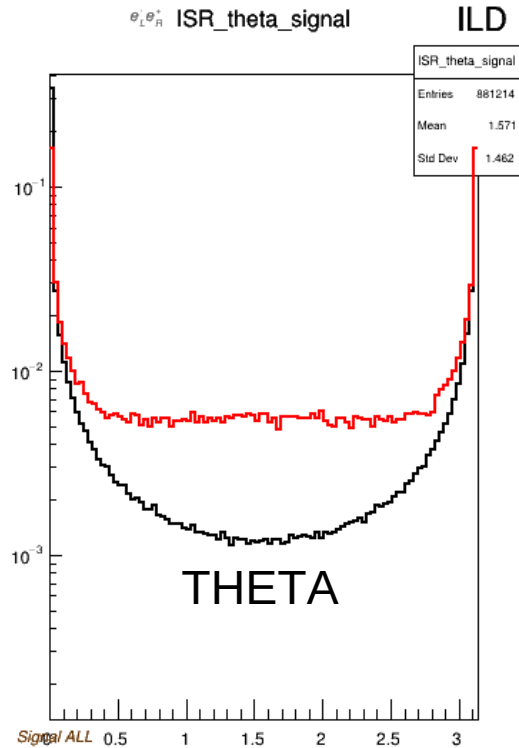
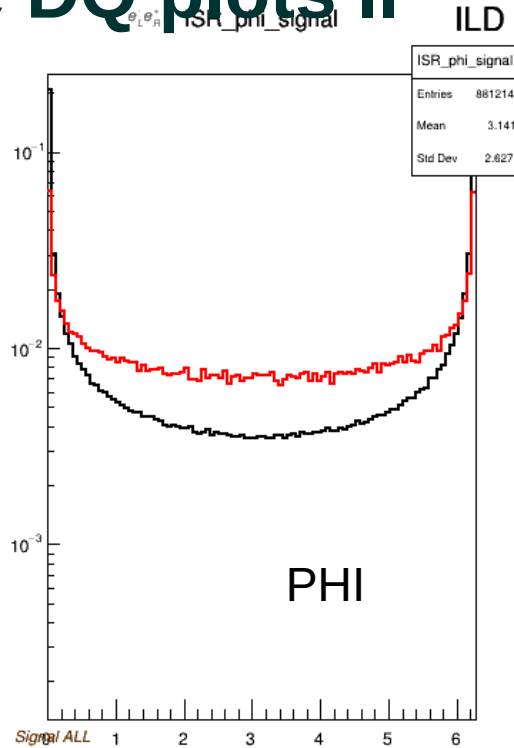
- ▶ **Red= 2020** (no vertex track recovery)
- ▶ **Black = DBD** (no vertex track recovery)
- ▶ I show phi, theta and momentum
- ▶ All plots are normalized to the number of events analyzed

Some DQ plots I



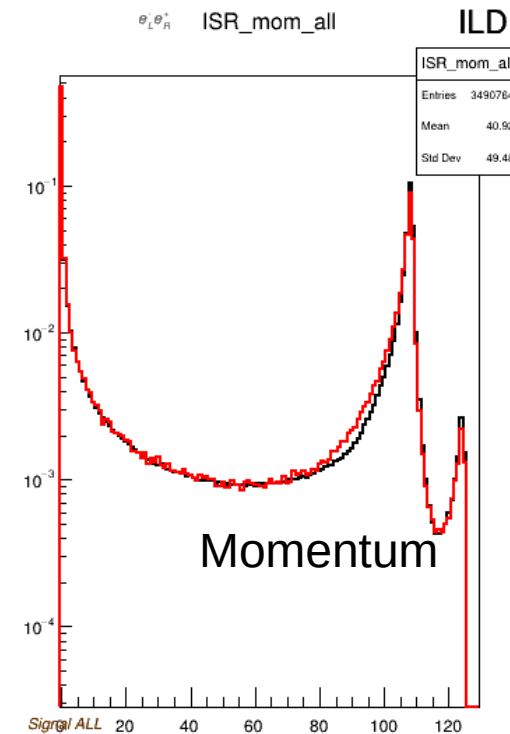
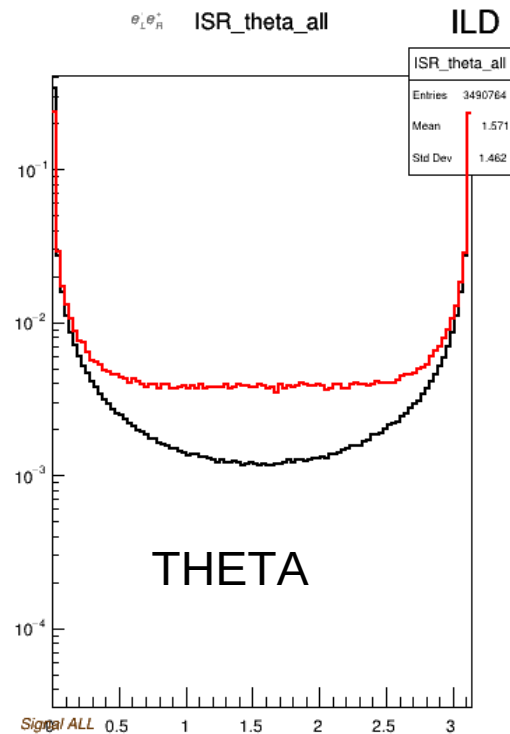
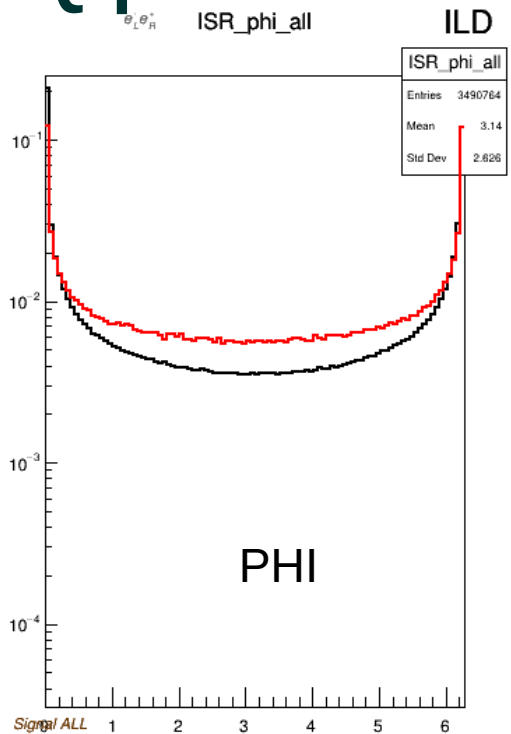
- ▶ Quarks AFTER PS (all flavours, I do not include radiative return events in the plot)
- ▶ **Red= 2020** (no vertex track recovery)
- ▶ **Black = DBD** (no vertex track recovery)

Some DQ plots II



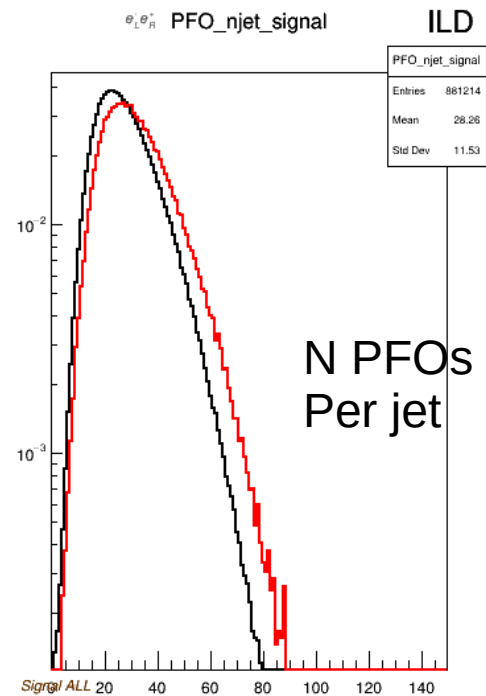
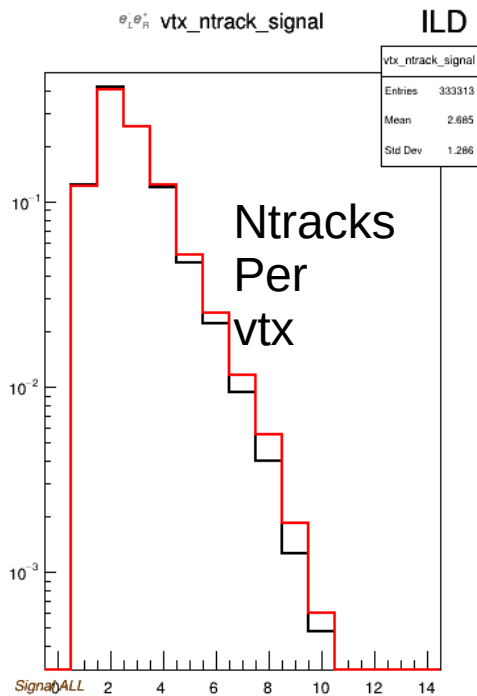
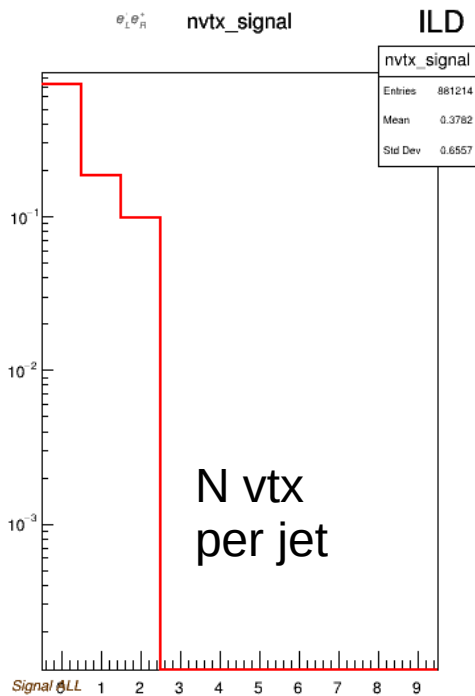
- ▶ ISR photons (all flavours, I do not include radiative return events in the plot)
- ▶ **Red= 2020** (no vertex track recovery)
- ▶ **Black = DBD** (no vertex track recovery)

Some DQ plots III



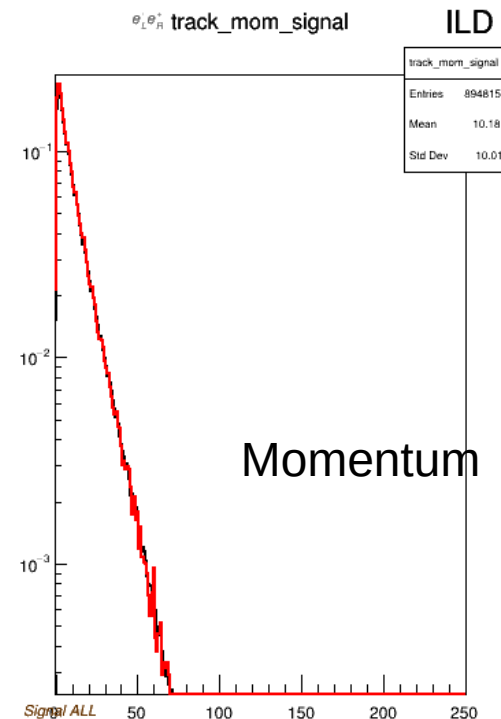
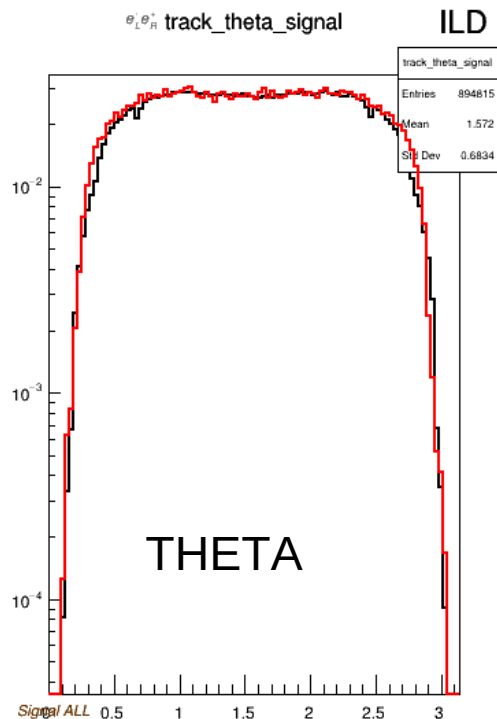
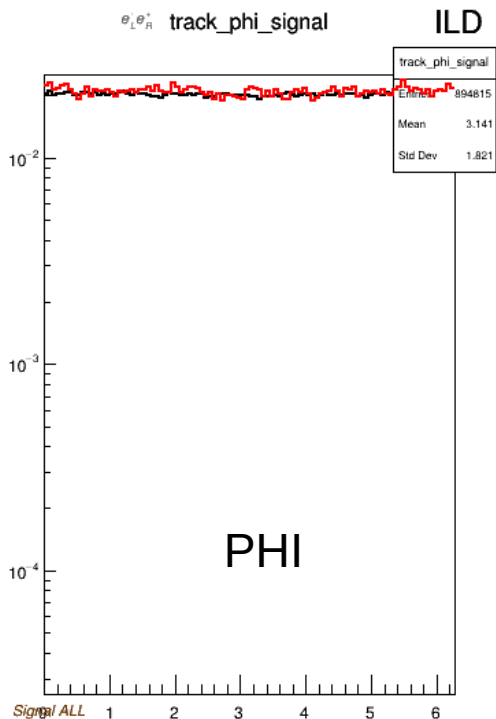
- ▶ ISR photons (all flavours, **signal + radiative return**)
- ▶ **Red= 2020** (no vertex track recovery)
- ▶ **Black = DBD** (no vertex track recovery)

Some DQ plots IV



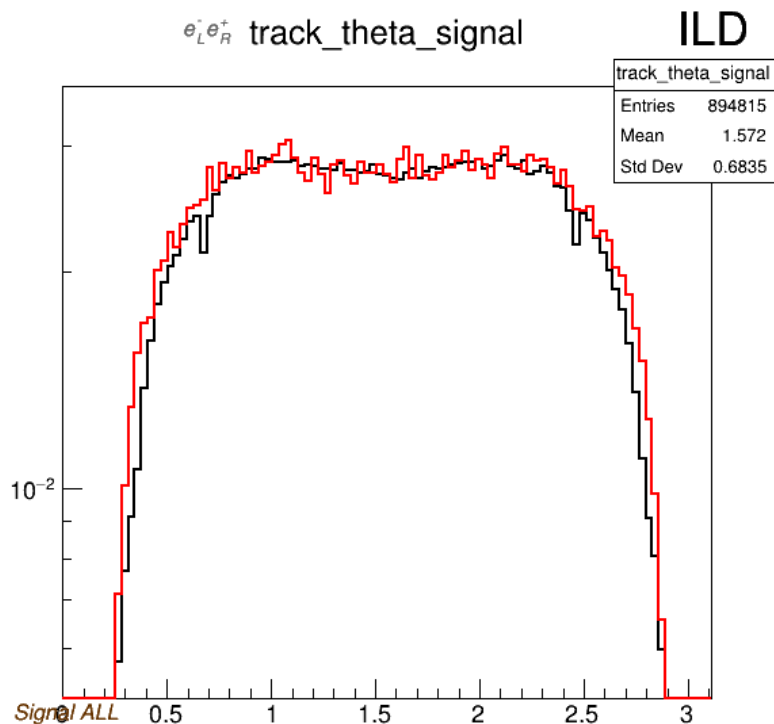
- ▶ Tracks, vtx, PFOs (all flavours, I do not include radiative return events in the plot)
- ▶ **Red= 2020** (no vertex track recovery)
- ▶ **Black = DBD** (no vertex track recovery)

Some DQ plots V



- ▶ Tracks (all flavours, I do not include radiative return events in the plot)
- ▶ **Red= 2020** (no vertex track recovery)
- ▶ **Black = DBD** (no vertex track recovery)

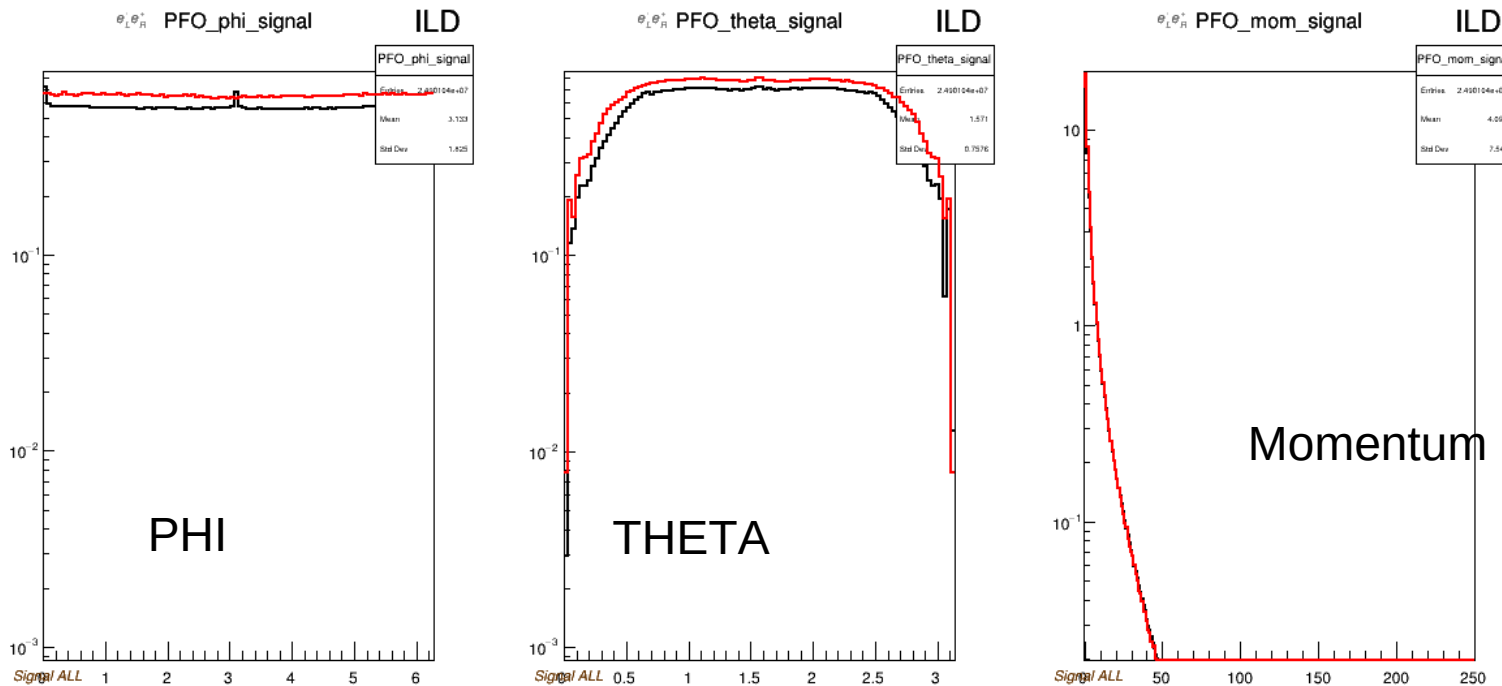
Some DQ plots V bis



- ▶ The new software solves the “horns” issue and populates a bit more the forward regions.
- ▶ **NEXT:** Check what would be the impact of the vertex restoring processor...

- ▶ Tracks (all flavours, I do not include radiative return events in the plot)
- ▶ **Red= 2020** (no vertex track recovery)
- ▶ **Black = DBD** (no vertex track recovery)

Some DQ plots VI



- ▶ PFOs (all flavours, I do not include radiative return events in the plot)
- ▶ **Red= 2020** (no vertex track recovery)
- ▶ **Black = DBD** (no vertex track recovery)

Summary , next steps

- ▶ No big surprises observed
 - Except that the dEdx is now more realistic
- ▶ Still some debugging is needed
- ▶ Check the application of the vertex restorer