# QL matching update

- with updating clustering/img jsonnets, updated sbnd geometry (now includes jumpered region), clustering and QL matching performance is pretty good

- remaining failure modes:

  - cosmic has ever so slightly higher solution than neutrino (<u>BEE link</u>)

    - Dom Brailsford recommended calculating correlation instead of KS-test

  - cosmic/neutrino in similar location/similar topology (<u>BEE link</u>)

    - this particular event is a bit unstable; sometimes its successful and sometimes fails

  - overclustering due to split APA (more details on next slide)

  - very boundary (<5cm) interaction not matched (probably could be fixed with more stages of re-examination) (<u>BEE link</u>)

clustering over bad/dead region

- with updated configs, haven't seen a failure mode with dead channels with neutrinos, but have noticed some cosmics that are split over collection plane jumpered region (primarily in APA1?)
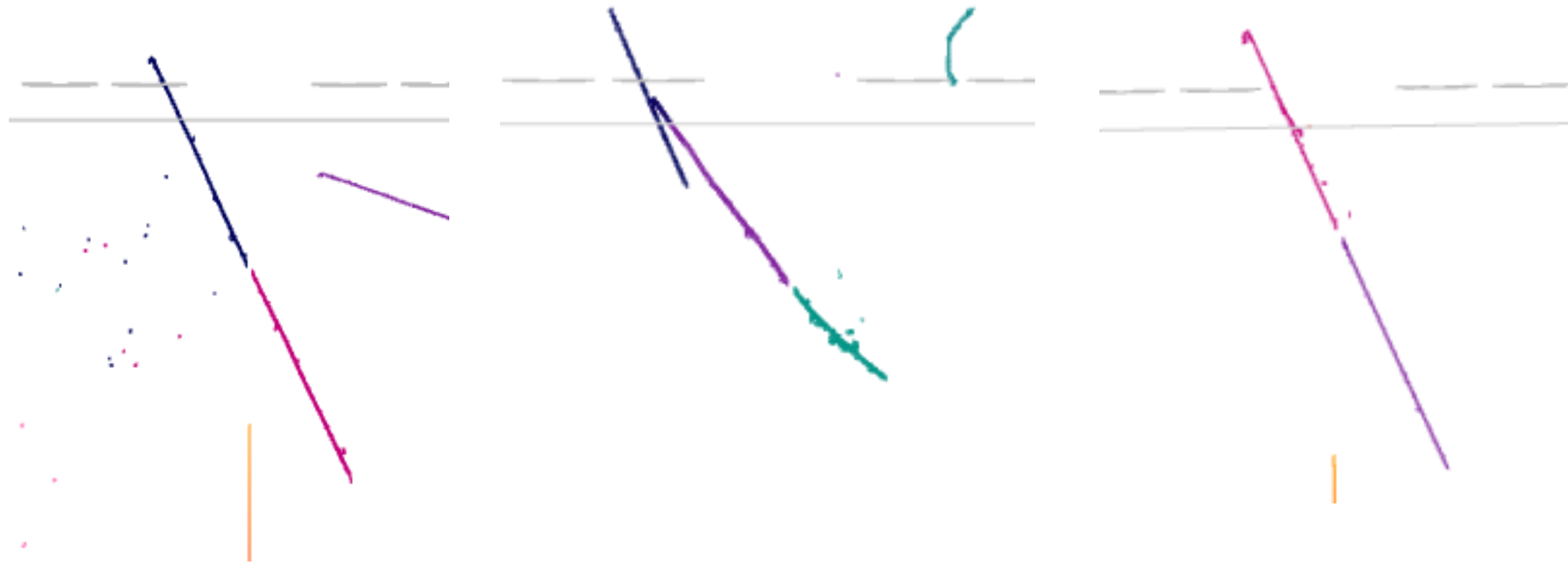
per-APA "overclustering"

- because we cluster per-APA, if there is a neutrino interaction that just barely crosses the cathode, the "small" part of the interaction in the other APA has high chance of getting clustered with a cosmic → overclustering

- cannot be fixed with a subsequent stage of multi-APA clustering since the cosmic will be t0-tagged with an out-of-time flash

- multi-APA DL clustering should help

- bee link #1

- bee link #2