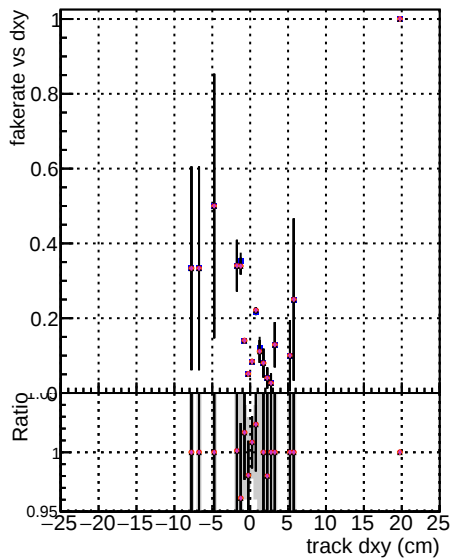
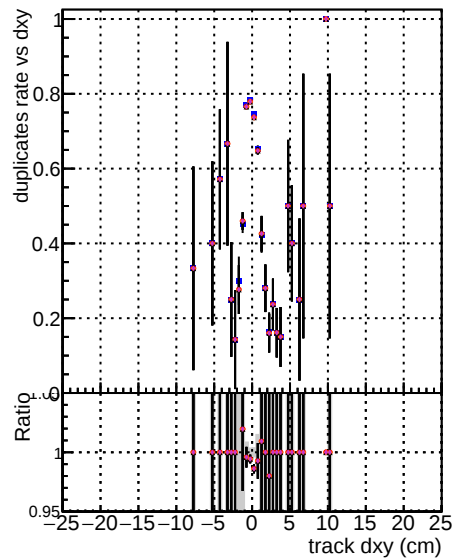


Fake rate vs dxy



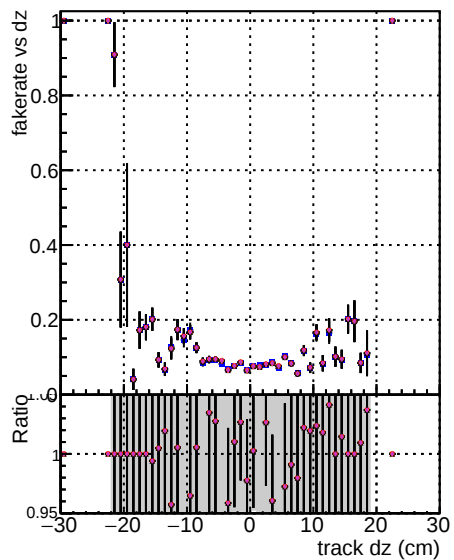
Duplicates Rate vs Dxy



Pileup rate vs dxy



Model	Fake Rate (approx.)
DOM	0.01
GKE	0.02
scf	0.03
QCD	0.04
updated	0.05
new	0.06
PL	0.07
DNN	0.08
updated	0.085
DNN	0.09
DNNsgcd13	0.095



The figure consists of two vertically stacked panels sharing a common x-axis labeled 'track dz (cm)' ranging from -30 to 30.

The top panel is titled 'duplicates rate vs dz' on the y-axis, which ranges from 0.4 to 1.0. It displays three data series:

- Black circles with error bars:** Represent all tracks. The rate starts at 1.0 for $dz < -25$ cm, drops to a minimum of approximately 0.6 at $dz \approx -15$ cm, and then rises to about 0.75 for $dz > 10$ cm.
- Blue circles with error bars:** Represent tracks with $N_{\text{hit}} \geq 10$. This series follows a similar trend to the black series but with slightly higher rates in the central region, peaking around 0.75.
- Red circles with error bars:** Represent tracks with $N_{\text{hit}} \geq 15$. This series shows the highest rates in the central region, peaking at approximately 0.8.

The bottom panel shows the 'Ratio' on the y-axis, ranging from 0.95 to 1.0. It displays the ratio of the duplicate rate for the selected tracks (blue or red) to the rate for all tracks (black).

- Black vertical bars:** Represent the ratio for $N_{\text{hit}} \geq 10$ tracks. The ratio is mostly between 0.95 and 1.0, with a slight dip around $dz = -10$ cm.
- Blue vertical bars:** Represent the ratio for $N_{\text{hit}} \geq 15$ tracks. These are mostly clustered around 1.0.
- Shaded regions:** A light gray shaded area indicates the 68% confidence level, and a darker gray shaded area indicates the 95% confidence level. Both are centered around a ratio of 1.0.