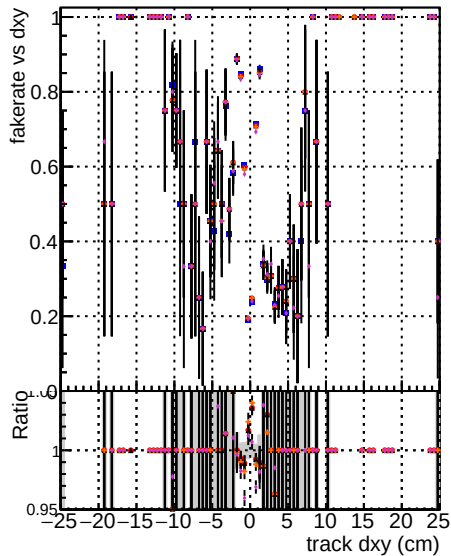
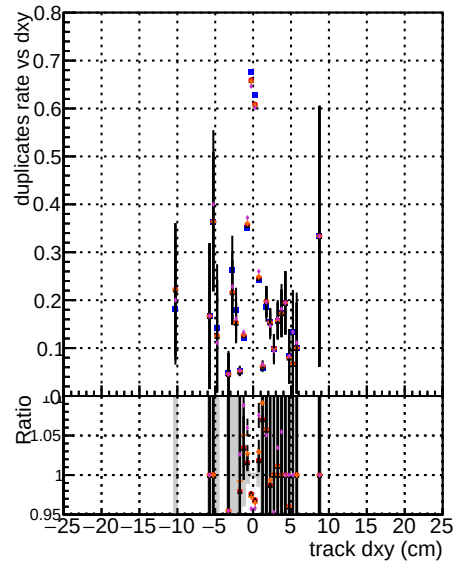


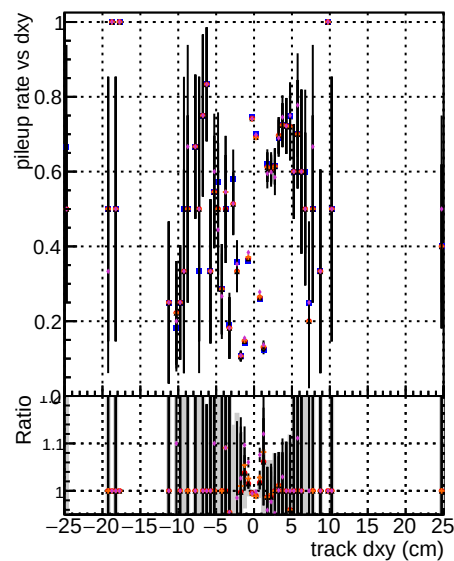
Fake rate vs dxy



Duplicates Rate vs Dxy



Pileup rate vs dxy



Fake rate vs d

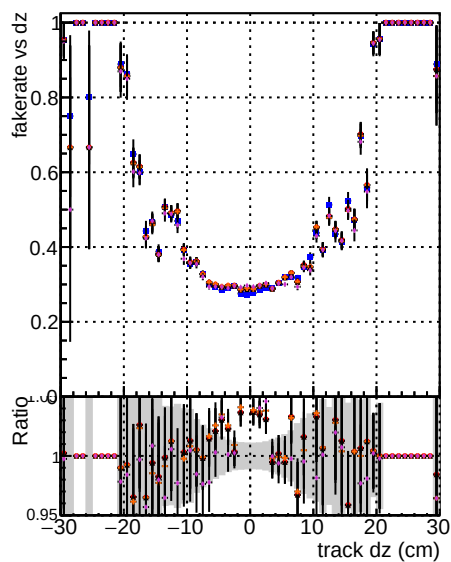


Figure 1 consists of two panels. The top panel is a scatter plot with error bars showing the pileup rate versus track dz (cm). The x-axis ranges from -30 to 30 cm, and the y-axis ranges from 0.0 to 0.8. Four data series are shown: black (top), red (bottom), blue (left), and orange (right). The pileup rate peaks around $dz = 0$ and decreases as dz increases in magnitude. The bottom panel shows the ratio of the four pileup models versus track dz (cm). The x-axis ranges from -30 to 30 cm, and the y-axis ranges from 0.95 to 1.10. The ratio is generally close to 1.0, with shaded regions indicating uncertainty bands. The shaded regions are gray for $dz < -20$ cm and $dz > 20$ cm, and white for $-20 < dz < 20$ cm.