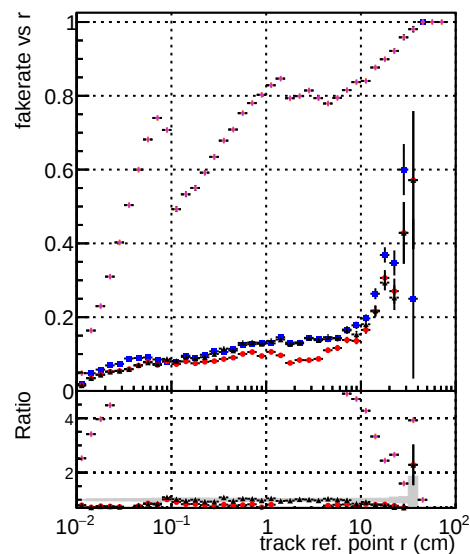
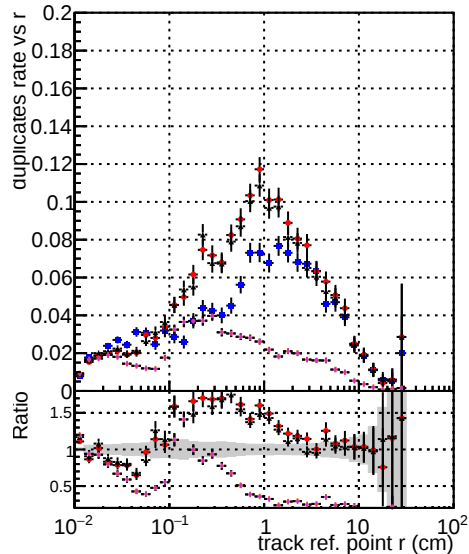


Fake rate vs vertpos



Duplicates Rate vs vertpos



Pileup rate vs vertpos

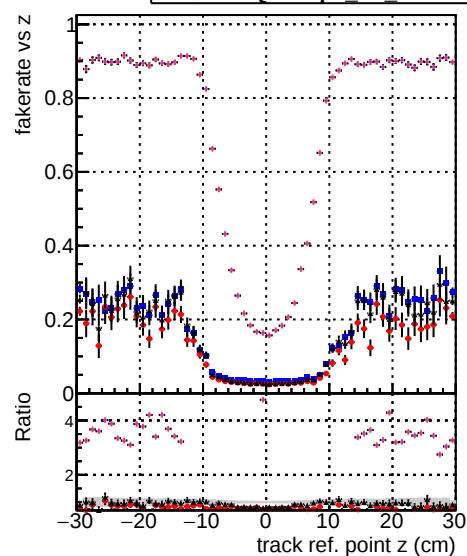
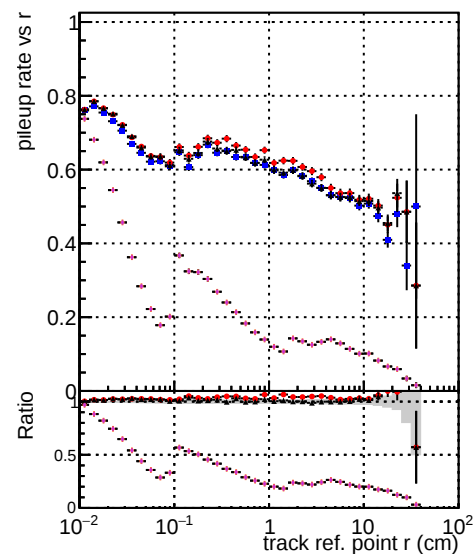
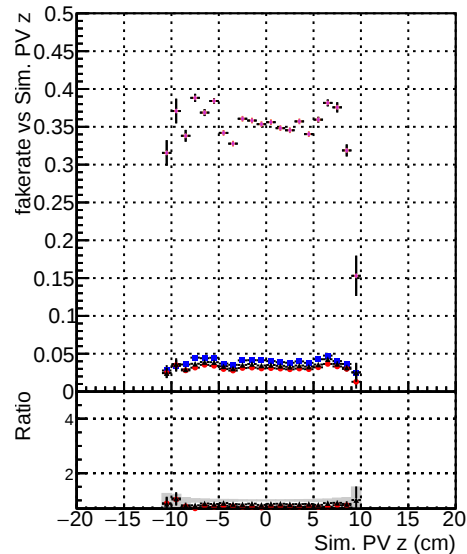
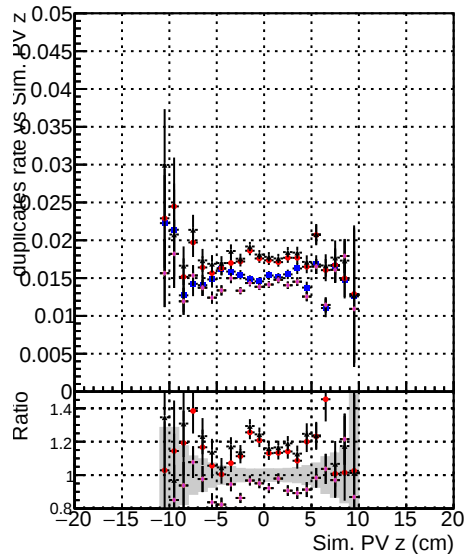


Figure 1 consists of two panels. The top panel shows the ratio of duplicate rates versus track reference point z (cm). The y-axis is labeled 'duplicates rate vs z' and ranges from 0 to 0.2. The x-axis is labeled 'track ref. point z (cm)' and ranges from -30 to 30. Data points are shown for different track types: black (total), blue (100 GeV), red (200 GeV), green (300 GeV), and magenta (400 GeV). The ratio is generally low (around 0.02) for $z < 0$ and increases significantly for $z > 0$, peaking around 0.08 for z between 10 and 20 cm. The bottom panel shows the ratio of duplicate rates versus track reference point z (cm). The y-axis is labeled 'Ratio' and ranges from 0 to 2. The x-axis is the same as the top panel. Data points are shown for different track types: black (total), blue (100 GeV), red (200 GeV), green (300 GeV), and magenta (400 GeV). The ratio is generally low (around 1.0) for $z < 0$ and increases significantly for $z > 0$, peaking around 2.0 for z between 10 and 20 cm.

Fake rate vs. sim PV z



Duplicates Rate vs sim PV z



Pileup rate vs. sim PV z

