

Figure 10 consists of two panels. The top panel shows the ratio of efficiencies for the 2016 data set (green) and the 2015 data set (black) as a function of TP vert r (cm) on a logarithmic scale. The y-axis is labeled 'efficiency vs vert r' and ranges from 0.0 to 0.8. The x-axis is labeled 'TP vert r (cm)' and ranges from 10⁻² to 10². The green data points with error bars show a ratio of approximately 0.6 for TP vert r between 10⁻² and 10⁻¹ cm, and then drop to 1.0 for TP vert r greater than 10⁻¹ cm. The black data points with error bars show a ratio of approximately 0.6 for TP vert r between 10⁻² and 10⁻¹ cm, and then drop to 1.0 for TP vert r greater than 10⁻¹ cm. The bottom panel shows the ratio of efficiencies for the 2016 data set (green) and the 2015 data set (black) as a function of TP vert r (cm) on a logarithmic scale. The y-axis is labeled 'Ratio' and ranges from 0.95 to 1.0. The x-axis is labeled 'TP vert r (cm)' and ranges from 10⁻² to 10². The green data points with error bars show a ratio of approximately 1.0 for TP vert r between 10⁻² and 10⁻¹ cm, and then drop to 1.0 for TP vert r greater than 10⁻¹ cm. The black data points with error bars show a ratio of approximately 1.0 for TP vert r between 10⁻² and 10⁻¹ cm, and then drop to 1.0 for TP vert r greater than 10⁻¹ cm.

Figure 10 consists of two panels. The top panel is a plot of efficiency versus TP vertex z (cm). The x-axis ranges from -30 to 30 cm, and the y-axis ranges from 0.2 to 1.0. Data points with error bars are shown for five methods: BQM (green circles), pixelCPE (red circles), templateCut (blue circles), chiSquare (purple circles), and standard fit (black circles). The efficiency generally decreases as z increases, with the standard fit showing the lowest efficiency at larger z values. The bottom panel shows the ratio of the TP vertex fit for the same methods. The x-axis is the same as the top panel, and the y-axis ranges from 0.95 to 1.0. The ratio is plotted for the same five methods, showing that the efficiency of the methods is very close to 1.0 across the range of z .

Ratio

track ref. point z (cm)

Figure 10 consists of two panels. The top panel is a plot of efficiency vs. Sim. PV z (cm). The x-axis ranges from -20 to 20 cm, and the y-axis ranges from 0.2 to 1.0. Data points are shown as green circles with vertical error bars. The efficiency starts at approximately 0.75 at -10 cm and decreases to approximately 0.3 at 10 cm. The bottom panel is a plot of Ratio vs. Sim. PV z (cm). The x-axis ranges from -20 to 20 cm, and the y-axis ranges from 0.95 to 1.05. A green horizontal line is drawn at Ratio = 1.0. A shaded region represents the ratio of the efficiency in the top panel to the ratio in the bottom panel. The shaded region is centered around 1.0 and has a width of approximately 10 cm.