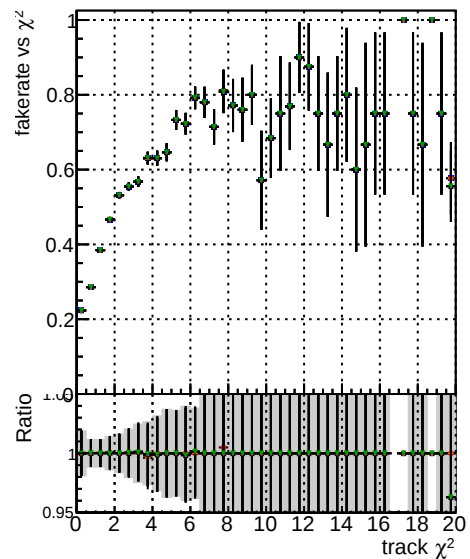
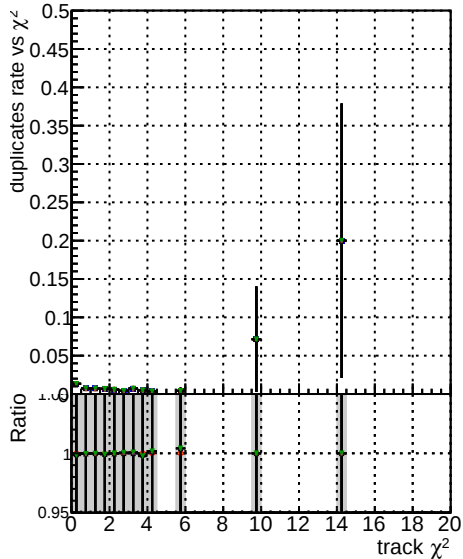


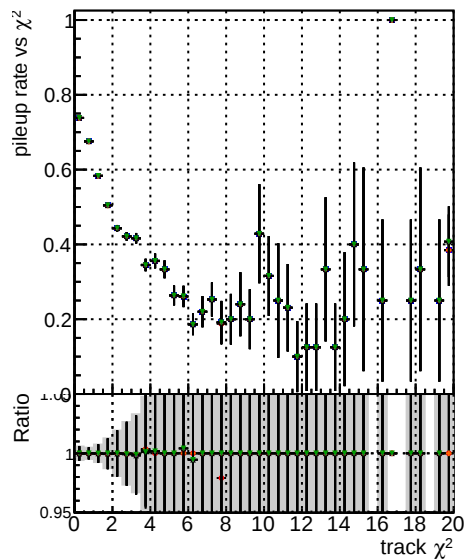
### Fake rate vs normalized $\chi^2$



### Duplicates Rate vs normalized $\chi^2$



### Pileup rate vs normalized $\chi^2$



Fake rate vs. 

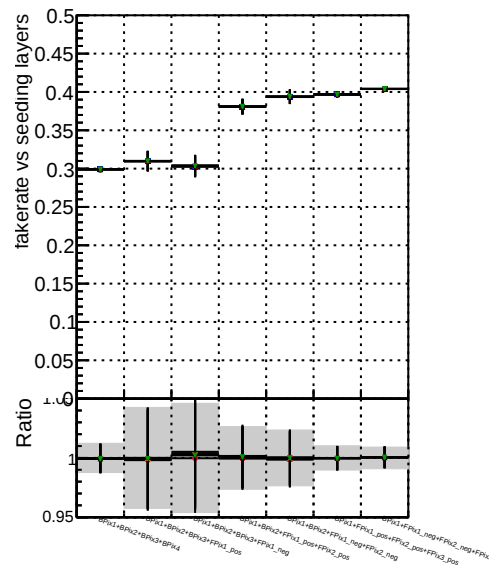


Figure 10 is a plot showing the pileup rate vs seeding layers for various combinations of positive and negative seeds. The y-axis is labeled 'Ratio' and ranges from 0.95 to 0.8. The x-axis lists 12 combinations of seeds:  $BFu1+BFu2+BFu3+BFu4$ ,  $BFu1+BFu2+BFu3+FFu1\_pos$ ,  $BFu1+BFu2+BFu3+FFu1\_neg$ ,  $BFu1+BFu2+FFu1\_pos+FFu2\_pos$ ,  $BFu1+BFu2+FFu1\_neg+FFu2\_neg$ ,  $BFu1+BFu2+FFu1\_pos+FFu2\_pos+FFu3\_pos$ ,  $BFu1+BFu2+FFu1\_neg+FFu2\_neg+FFu3\_neg$ ,  $BFu1+BFu2+FFu1\_pos+FFu2\_pos+FFu3\_pos+FFu4\_pos$ ,  $BFu1+BFu2+FFu1\_neg+FFu2\_neg+FFu3\_neg+FFu4\_neg$ ,  $BFu1+BFu2+FFu1\_pos+FFu2\_pos+FFu3\_pos+FFu4\_pos+FFu5\_pos$ ,  $BFu1+BFu2+FFu1\_neg+FFu2\_neg+FFu3\_neg+FFu4\_neg+FFu5\_neg$ , and  $BFu1+BFu2+FFu1\_pos+FFu2\_pos+FFu3\_pos+FFu4\_pos+FFu5\_pos+FFu6\_pos$ . The plot shows two distinct groups of data points: one group with ratios around 0.65-0.7 and another group with ratios around 1.0. A horizontal line is drawn at Ratio = 1.0.