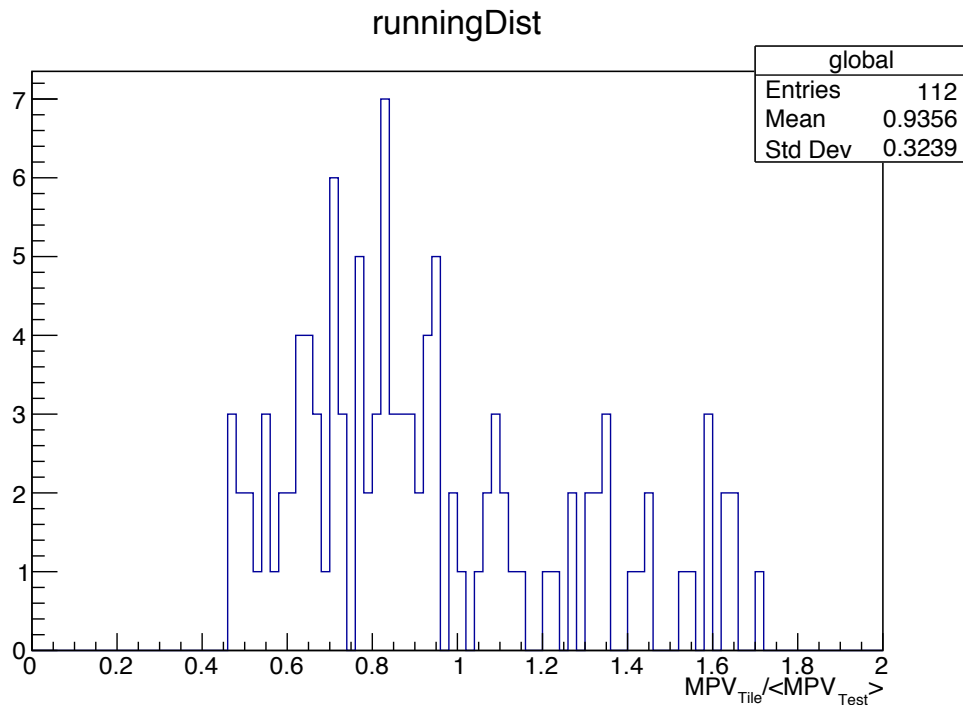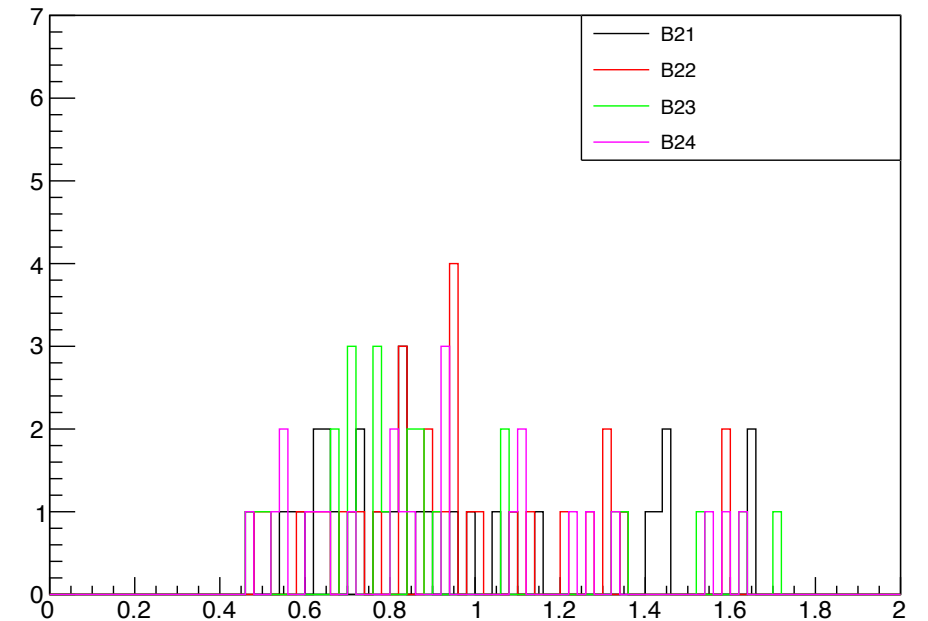# Tile Tester Updates

Anthony Hodges

Recap

- Sent out slides ~Tuesday/Wednesday of last week

- Encountered some difficulties on how to deal with SiPM blocker differences

- John L. recommended correcting for SiPM holder depending by correcting by factor of $\dfrac{MPV_{ref}}{<MPV_{Test}>}$

- Tested more tiles
  - ~Half of available tiles tested

Position Correction

- Making plot of $\frac{MPV_{tile}}{<MPV_{Test}>}$ not necessarily encouraging

- Recalled work Edward showed on correcting for SiPM dependence

Breakdown by angle
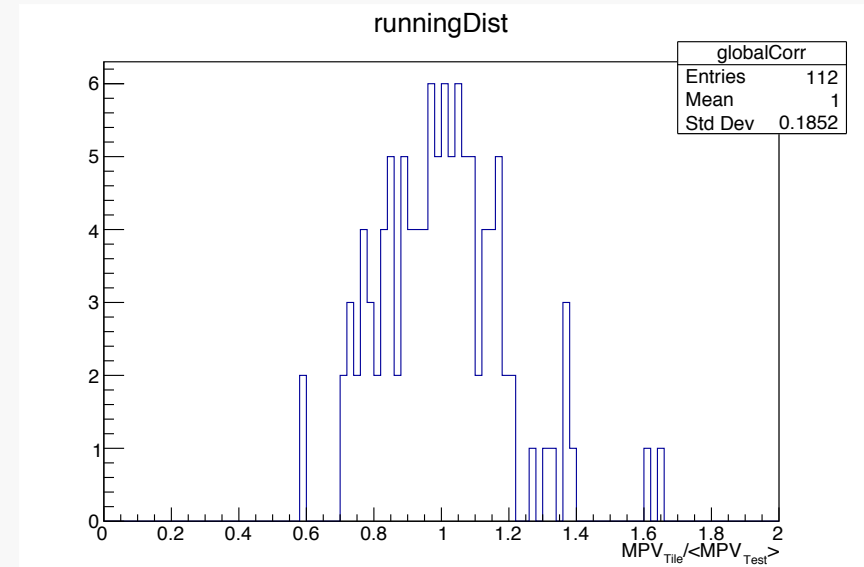
Position Correction

- Plot previous histogram as a function of SiPM number

- Calculate correction factor of $\dfrac{1}{\left\langle \dfrac{MPV_{Tile}}{\langle MPV_{Test}\rangle} \right\rangle}$

- Apply correction factor to corresponding channel

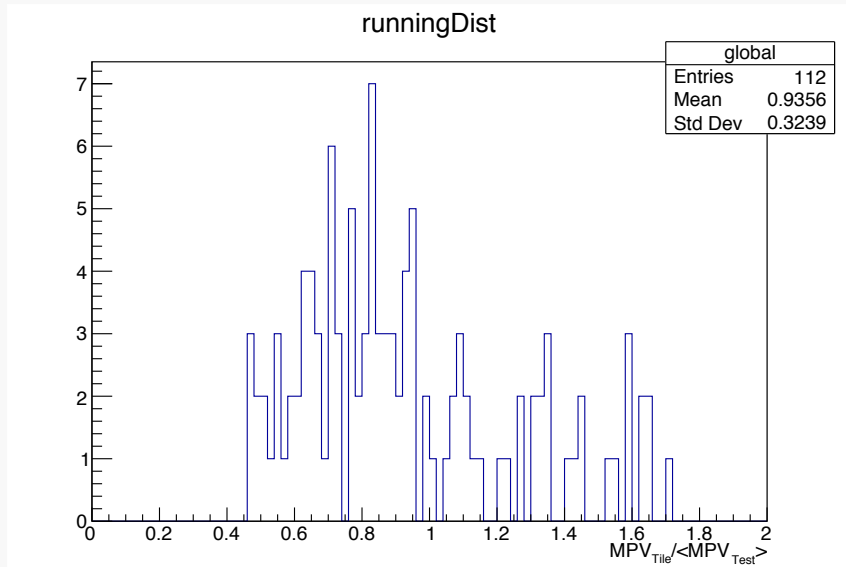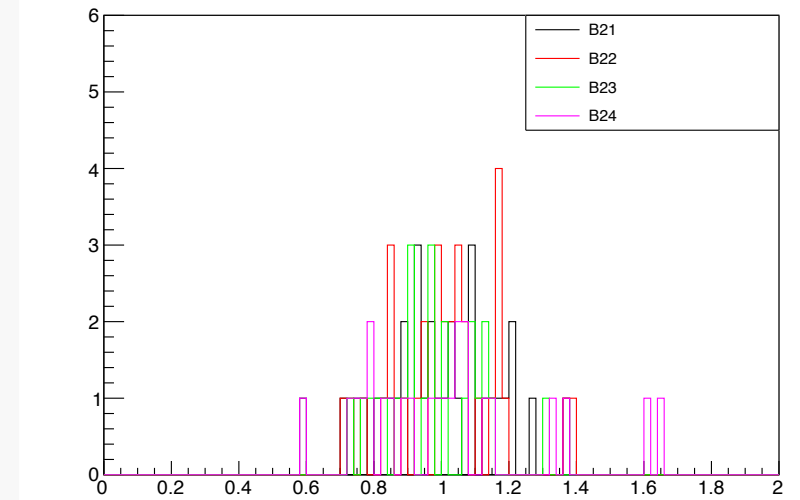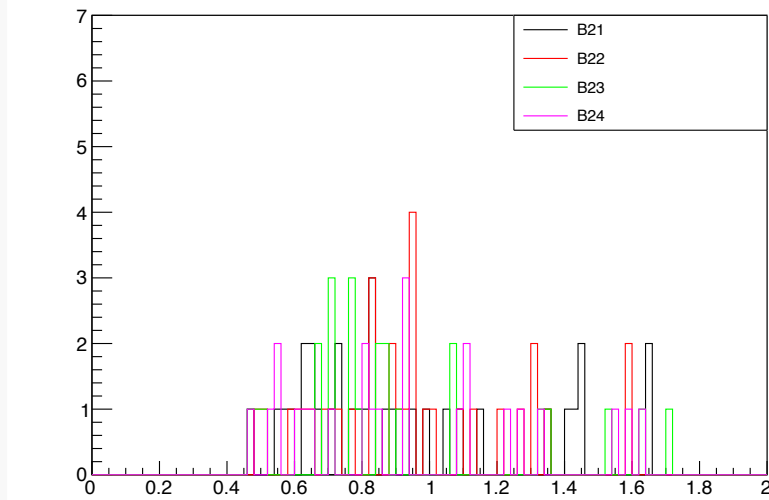Correction Applied

Result of SiPM Correction

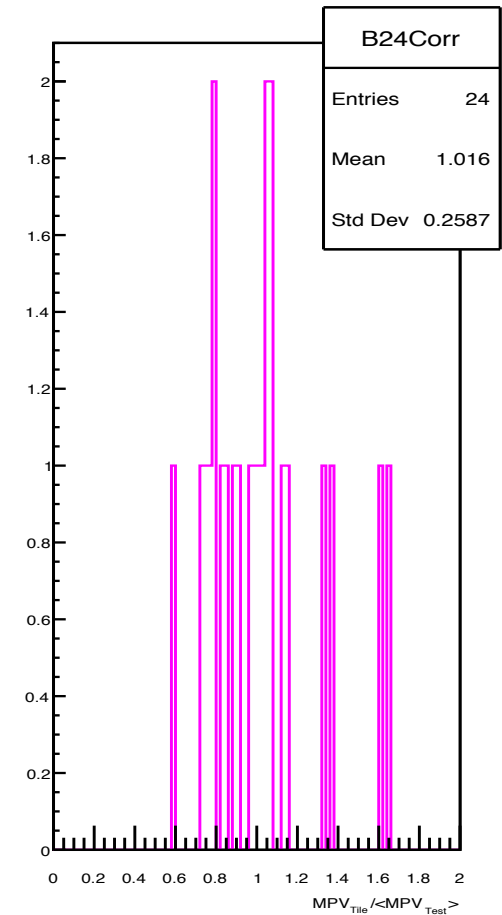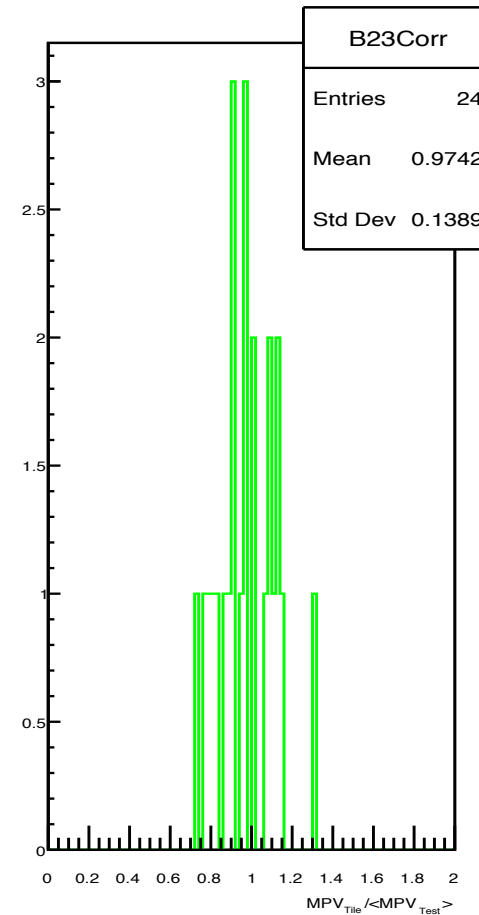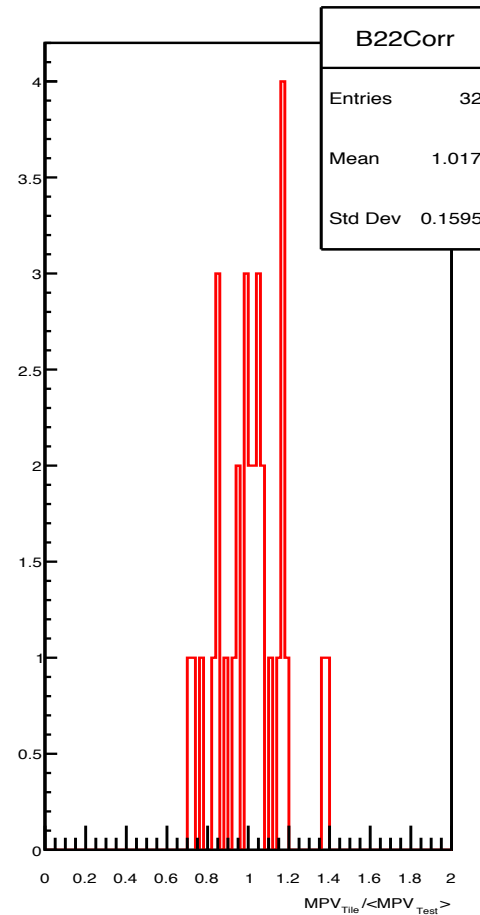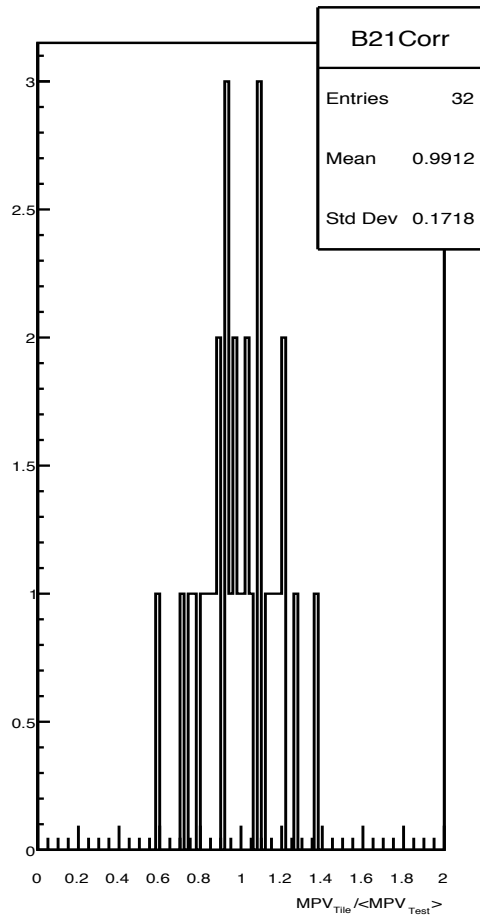- Can still see some outlier tiles, but performance seems much tighter

Correction Applied

Breakdown by Tile Angle

- So far the B24 angle tiles have the widest deviation.

Summary/To-Do

- Applying SiPM correction factor cleans up the performance distribution.

- Overall, tiles show about an 18% deviancy on average

- Some tiles perform noticeably outside this window
  - Checking outlier tiles against uniplast data.

- New tile tester should arrive at GSU Monday morning.