

K-Koto Meeting

2020/09/08

YoungJun Kim

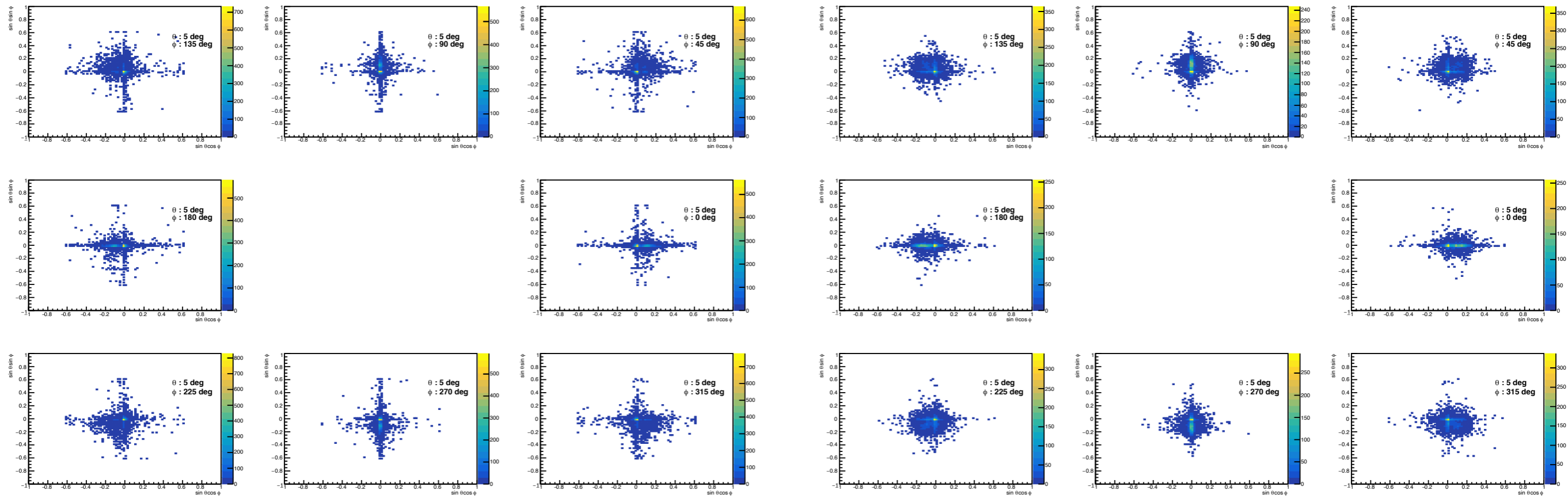
RooFit vs TF fit results

- RooFit
 - Get PDF value from Shower histogram (linear interpolated)
 - Free parameter θ ($-\pi/4 \sim \pi/4$)
- TF2 fit
 - Parametrized PDF
 - Free parameter θ ($-\pi/4 \sim \pi/4$), height

RooFit vs TF fit results

RooFit

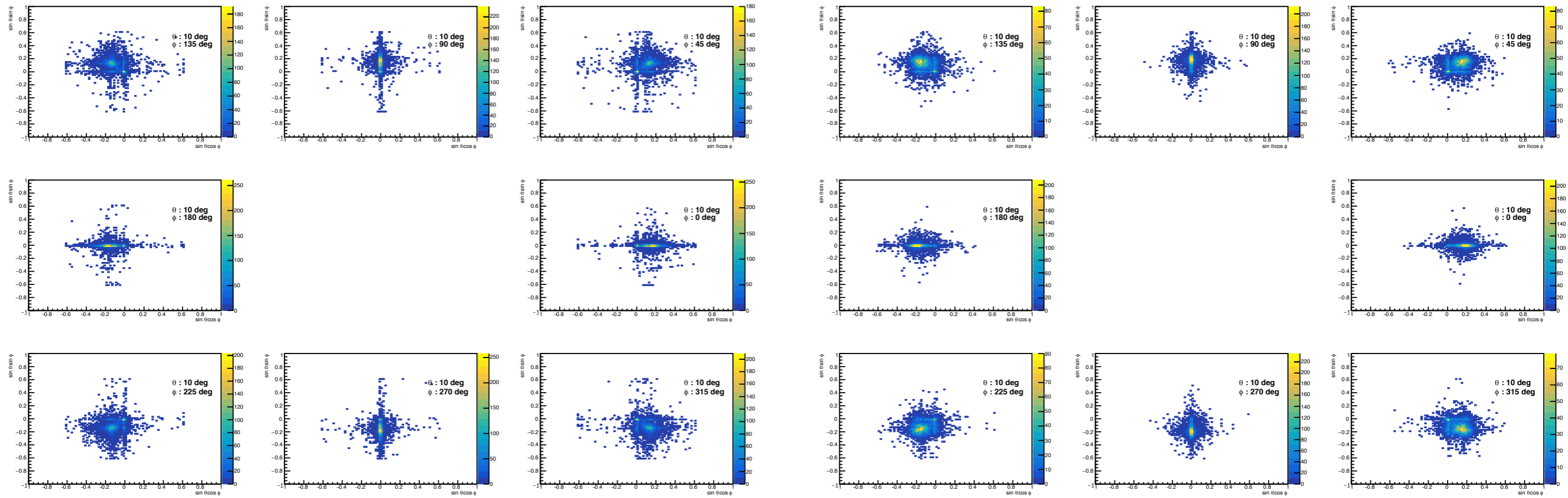
TF Fit



RooFit vs TF fit results

RooFit

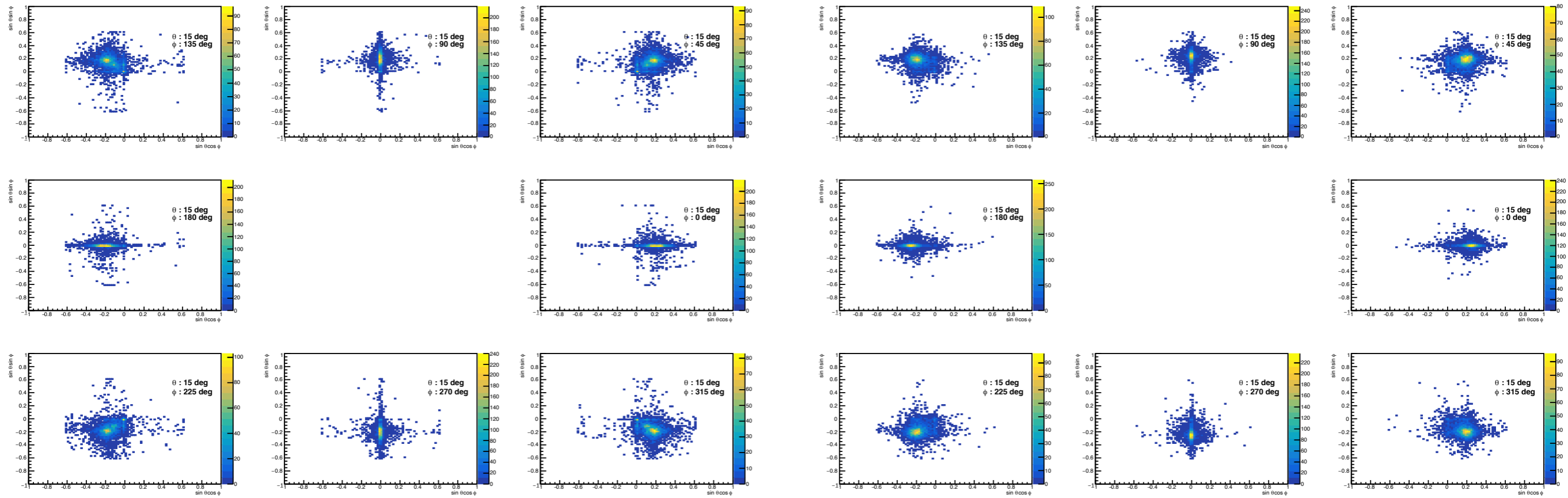
TF Fit



RooFit vs TF fit results

RooFit

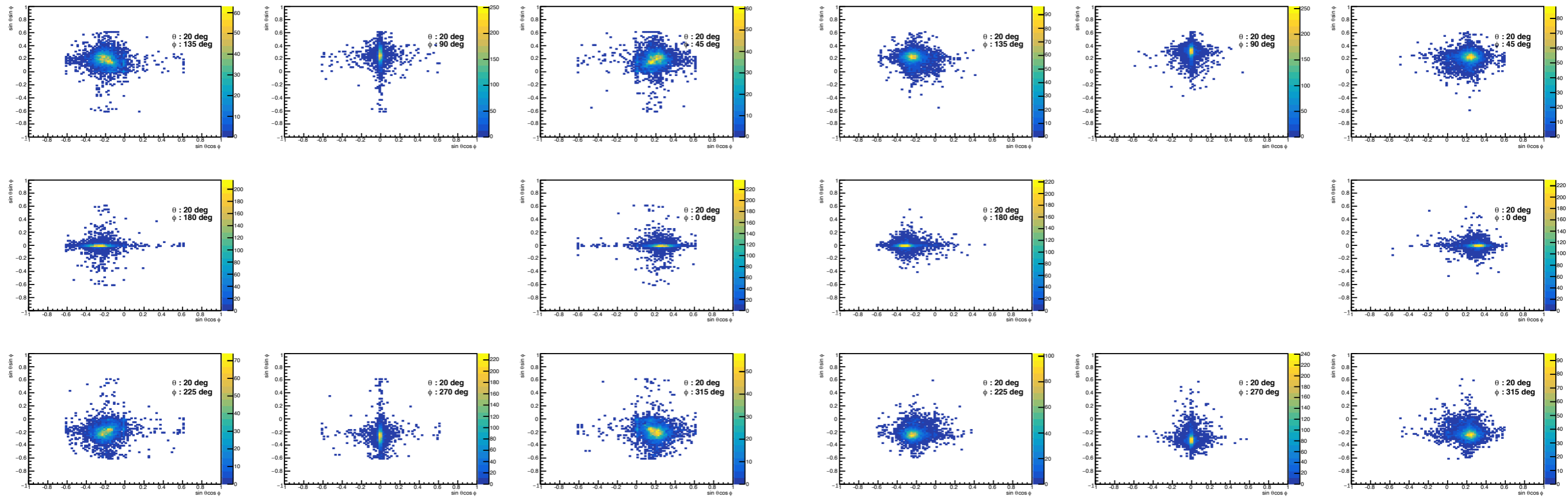
TF Fit



RooFit vs TF fit results

RooFit

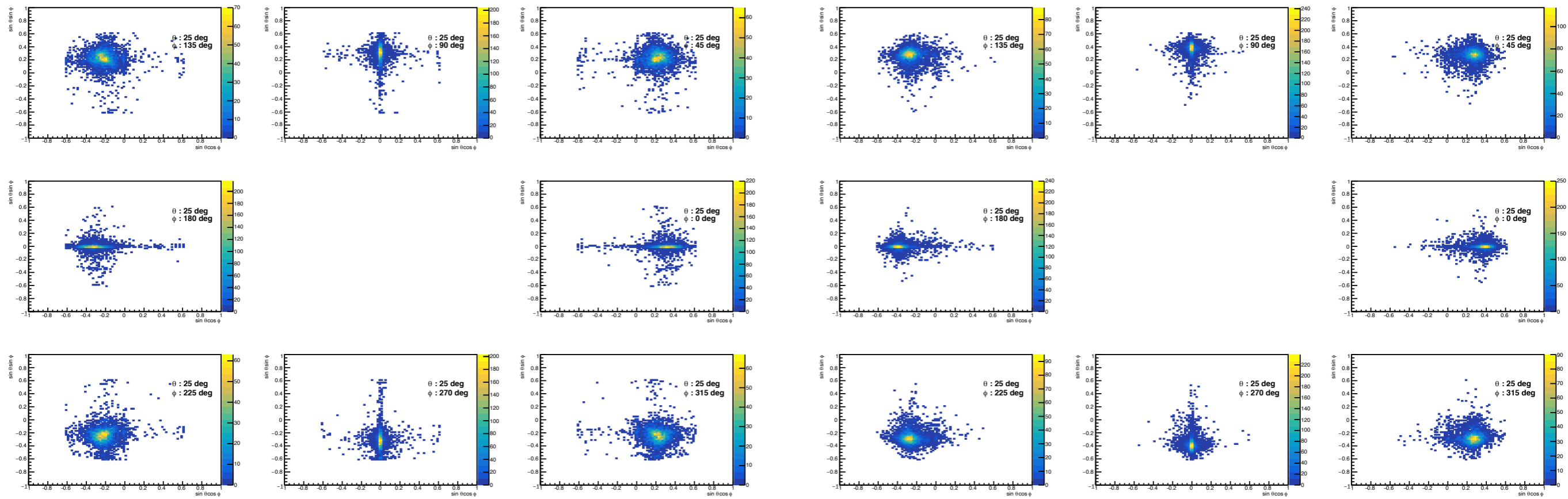
TF Fit



RooFit vs TF fit results

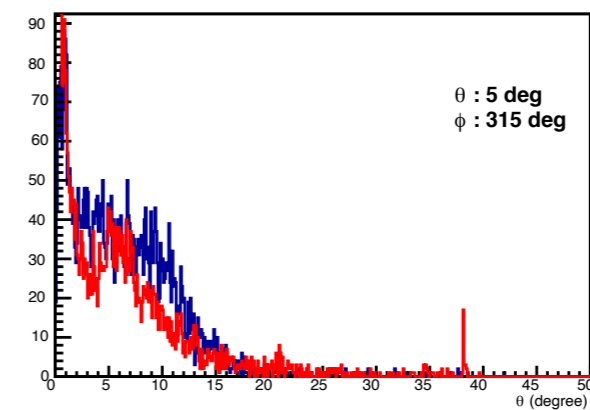
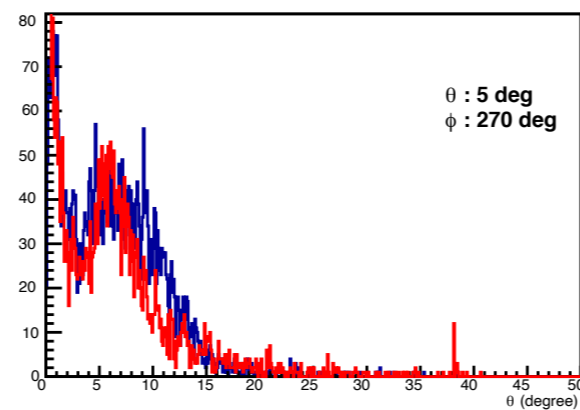
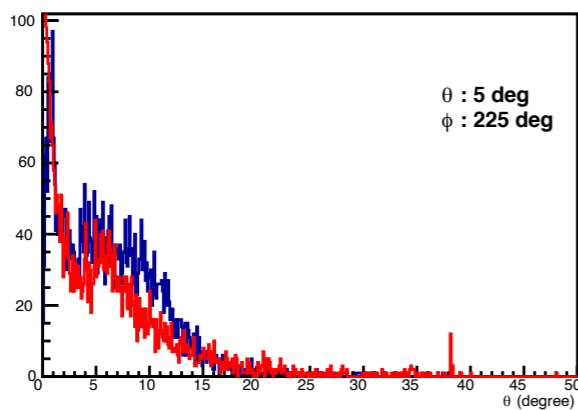
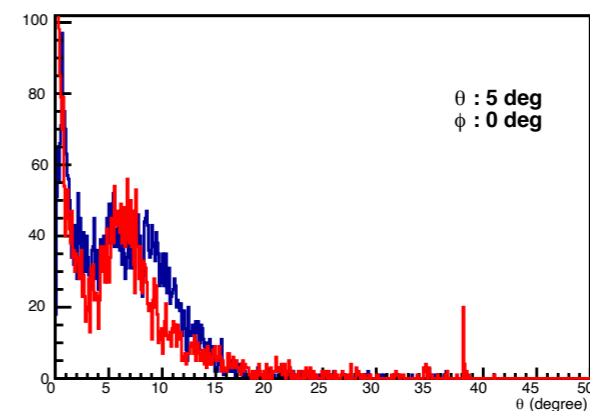
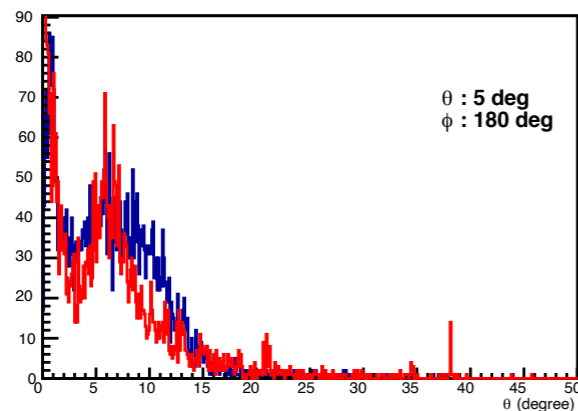
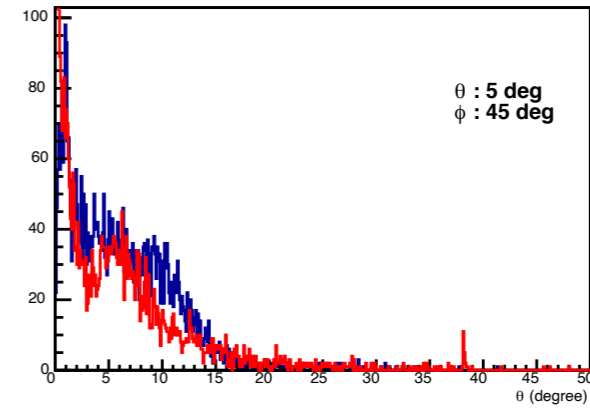
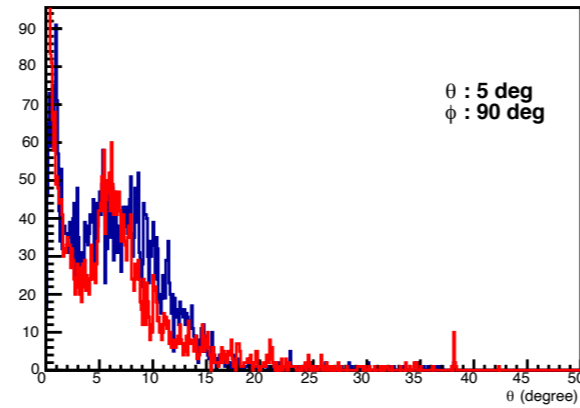
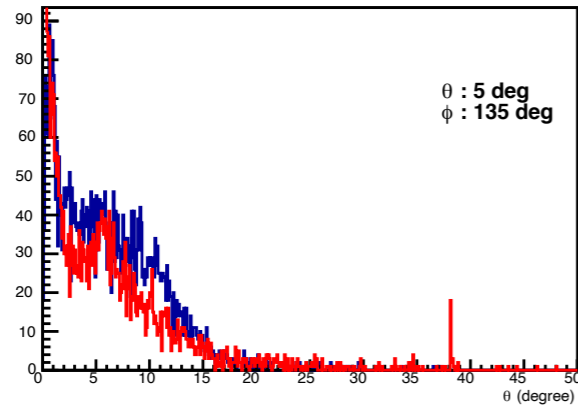
RooFit

TF Fit



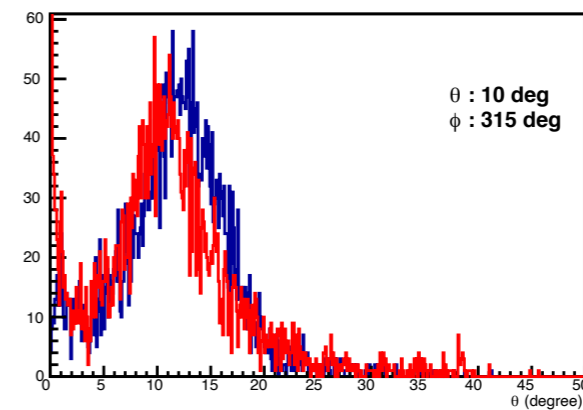
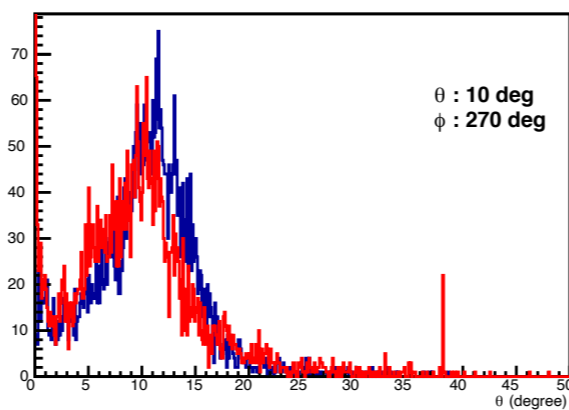
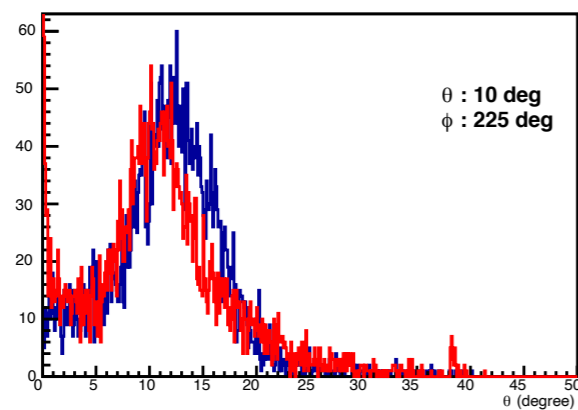
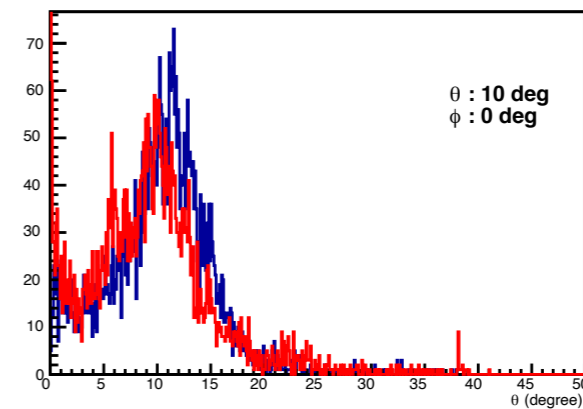
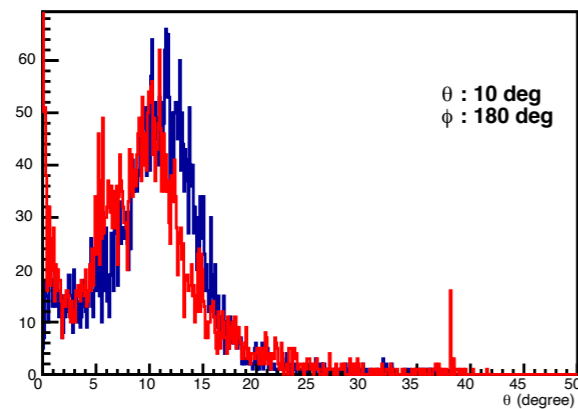
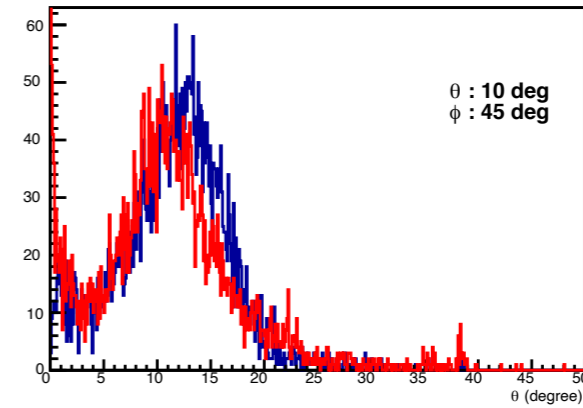
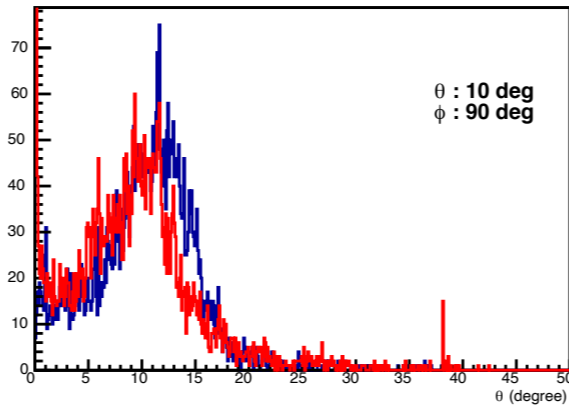
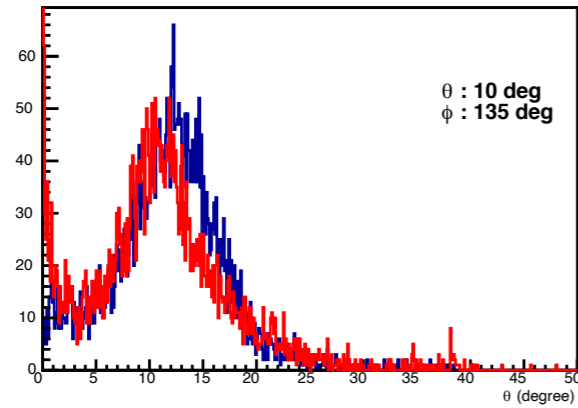
RooFit vs TF fit results (theta)

RooFit
TF fit



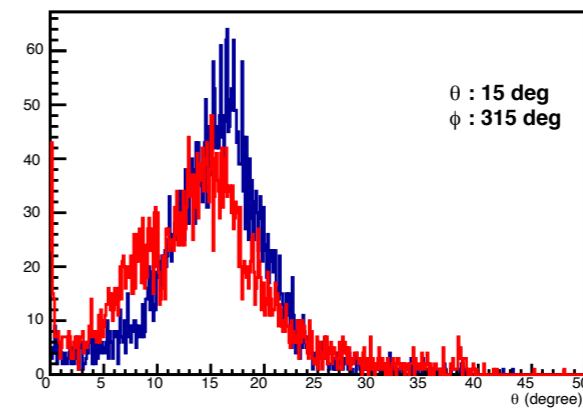
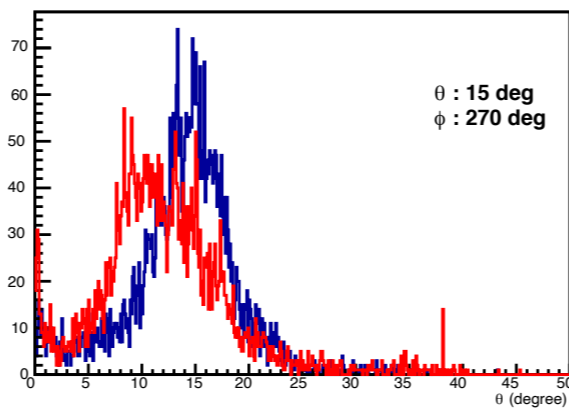
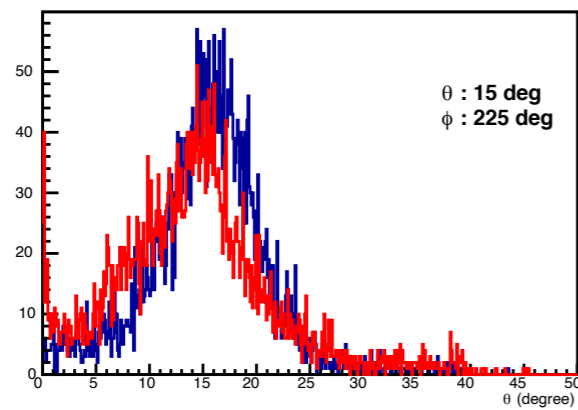
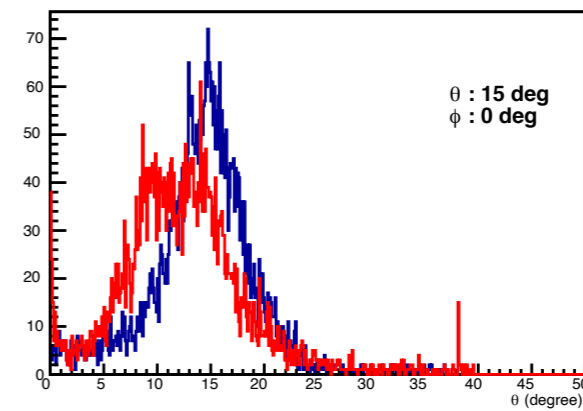
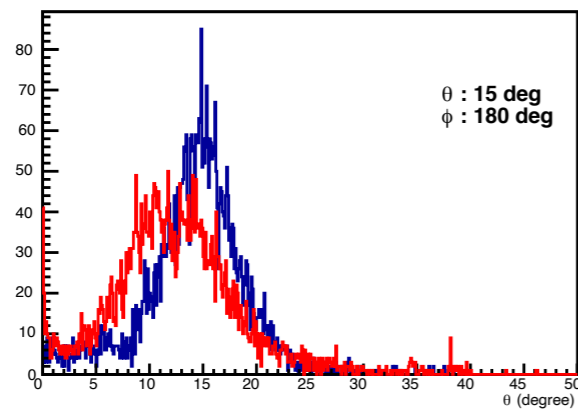
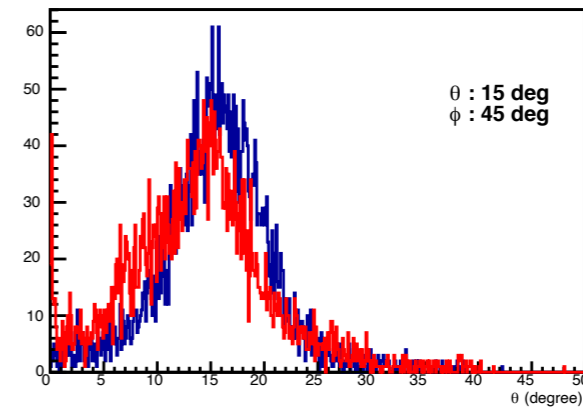
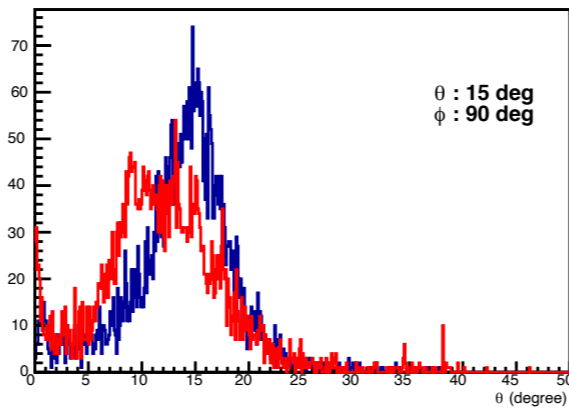
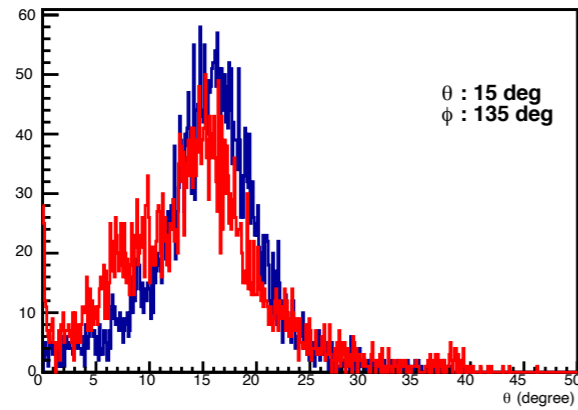
RooFit vs TF fit results (theta)

RooFit
TF fit



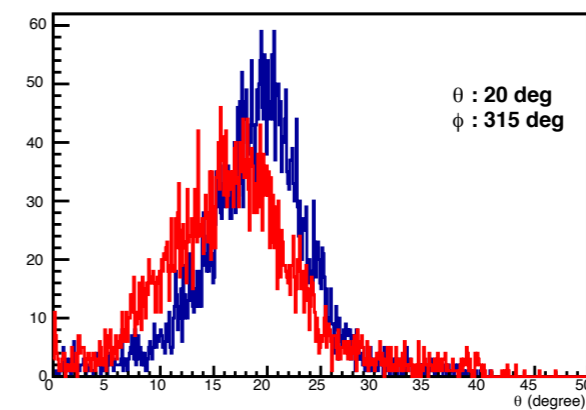
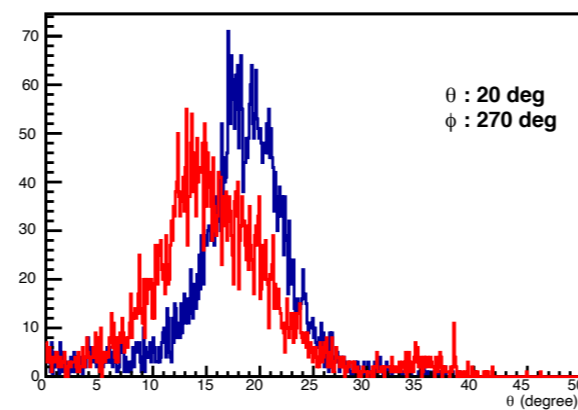
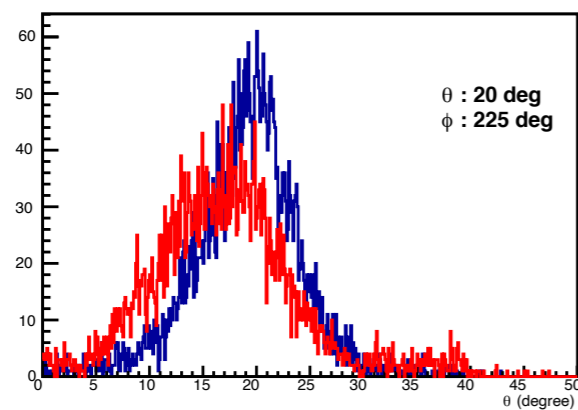
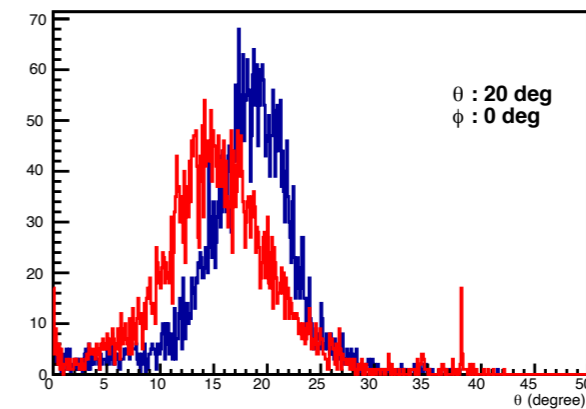
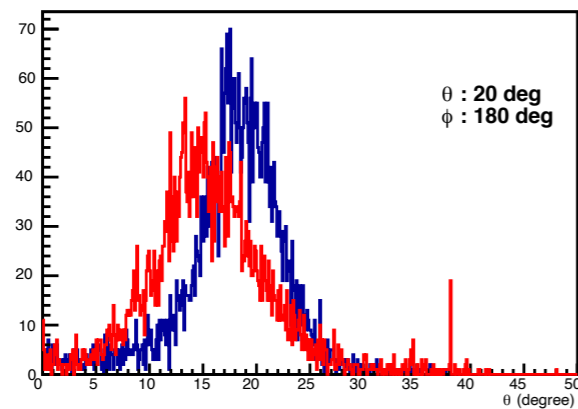
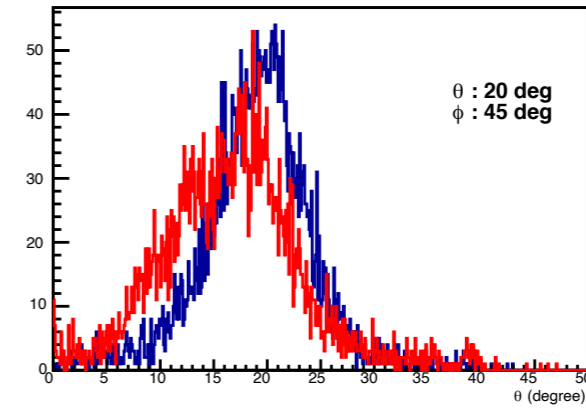
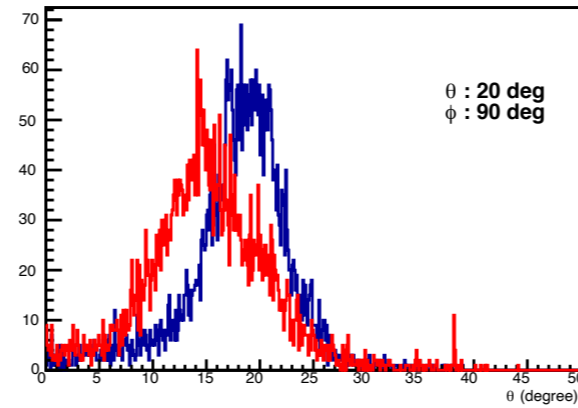
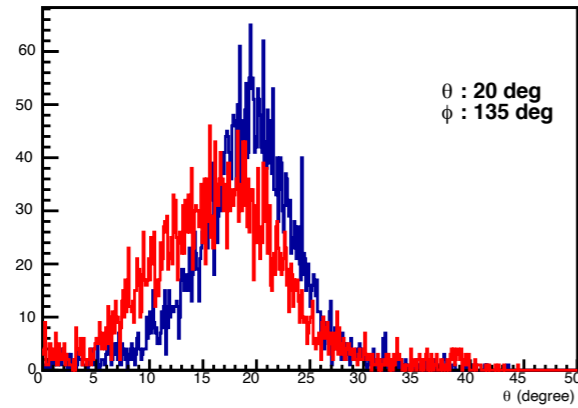
RooFit vs TF fit results (theta)

RooFit
TF fit



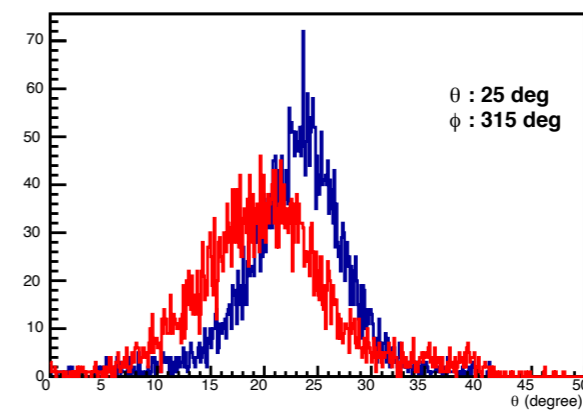
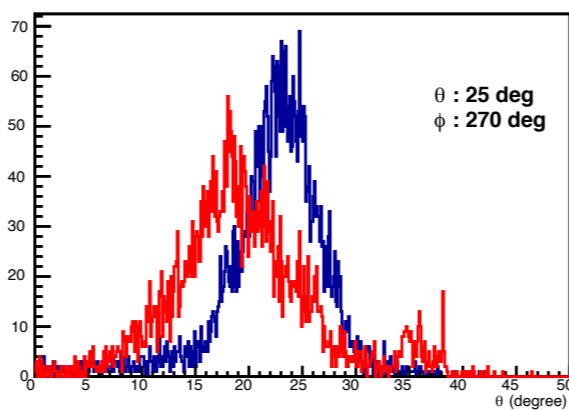
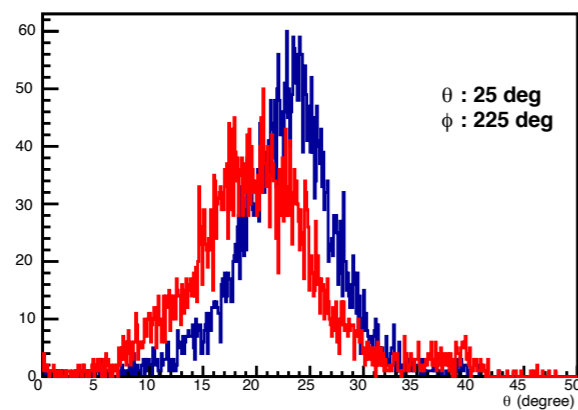
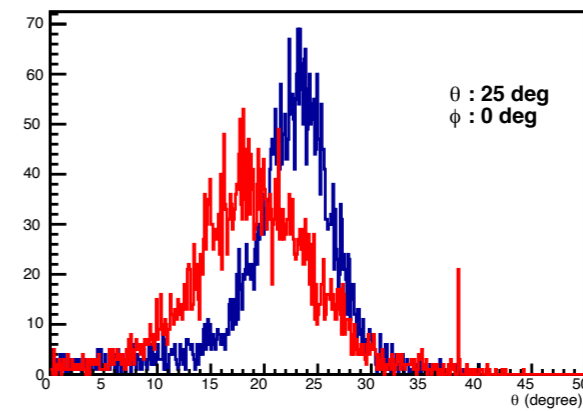
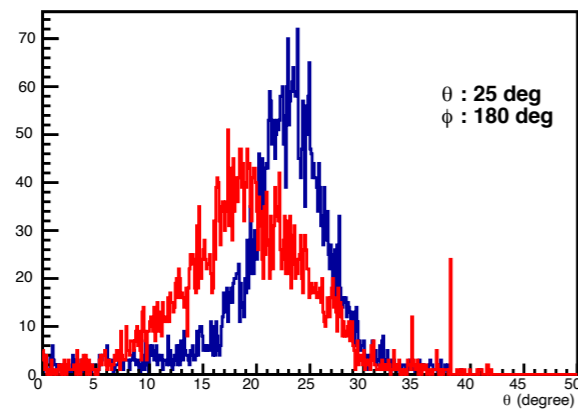
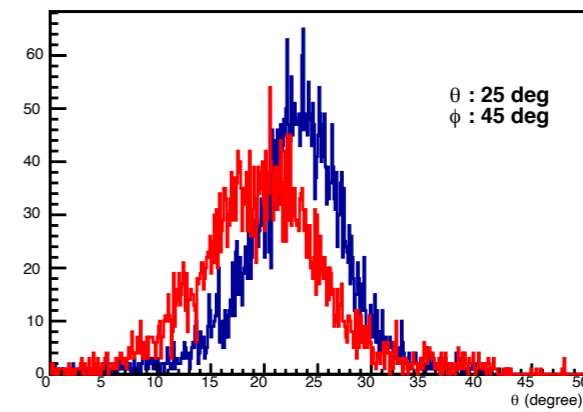
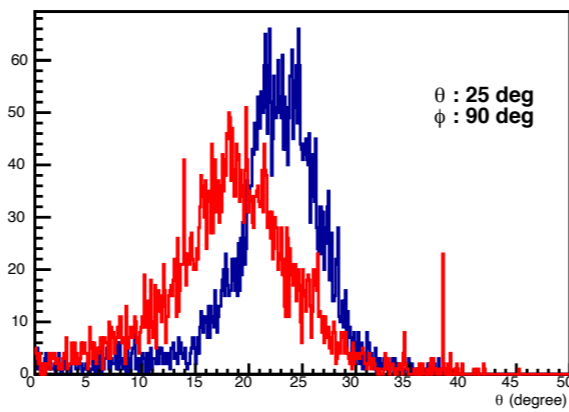
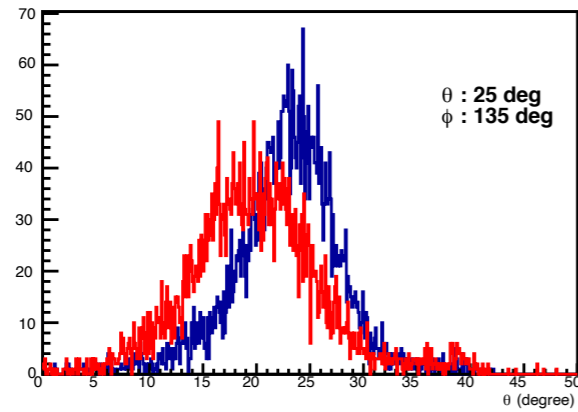
RooFit vs TF fit results (theta)

RooFit
TF fit



RooFit vs TF fit results (theta)

RooFit
TF fit

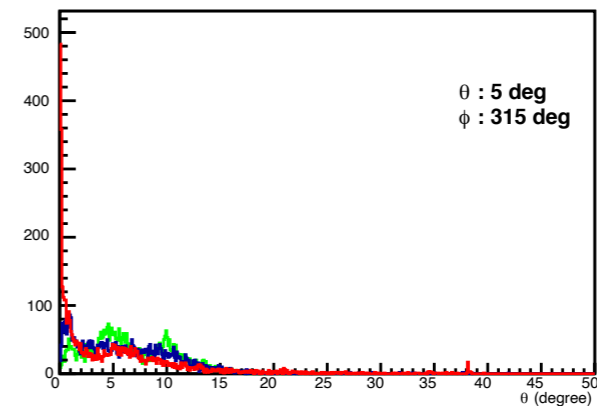
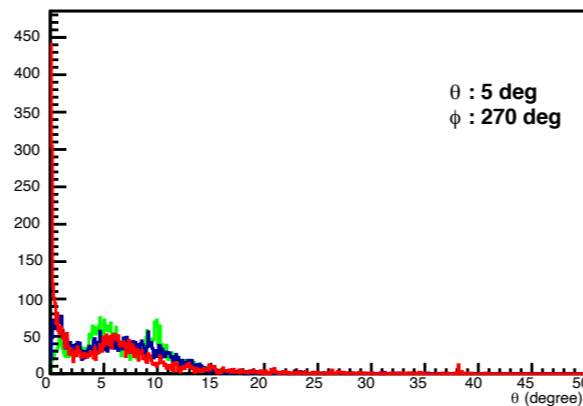
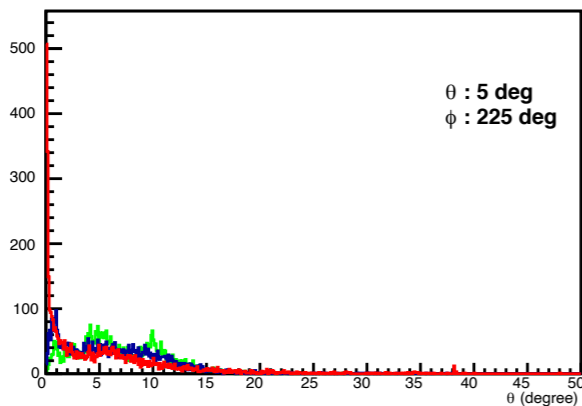
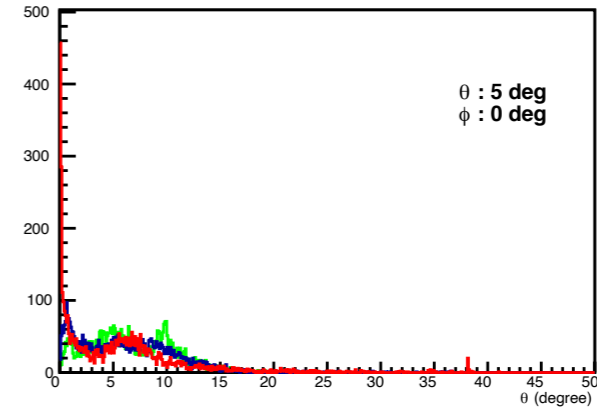
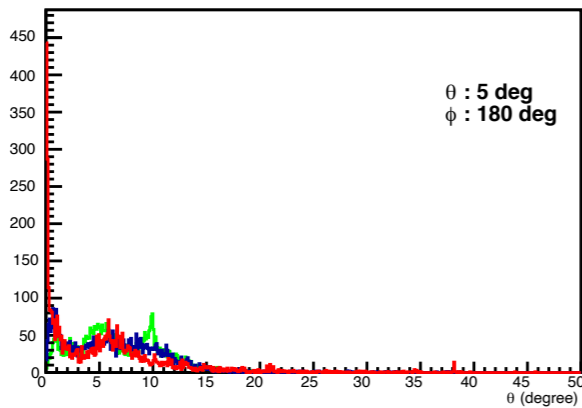
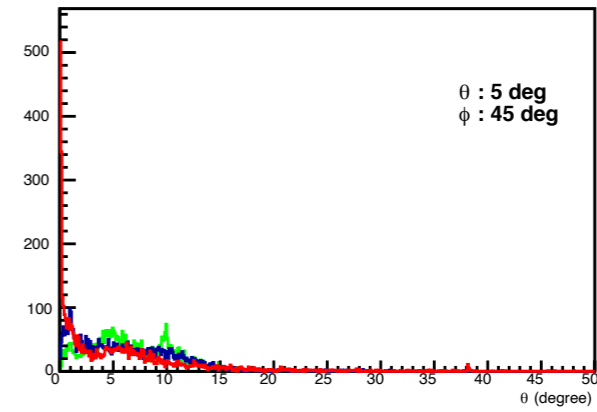
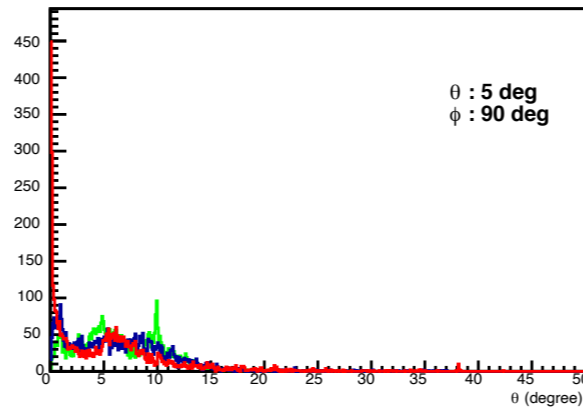
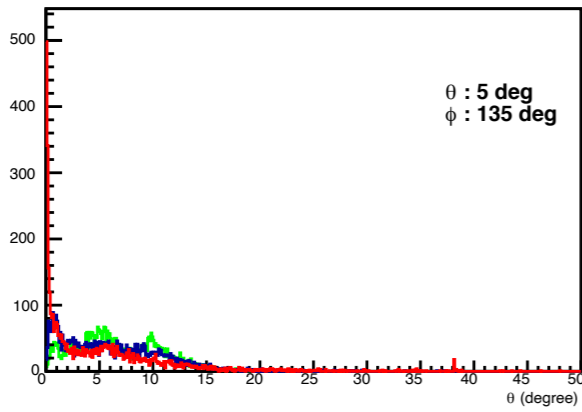


RooFit vs TF fit results vs Limited range

RooFit

TF fit

$\pm 5^\circ$ range (original method)

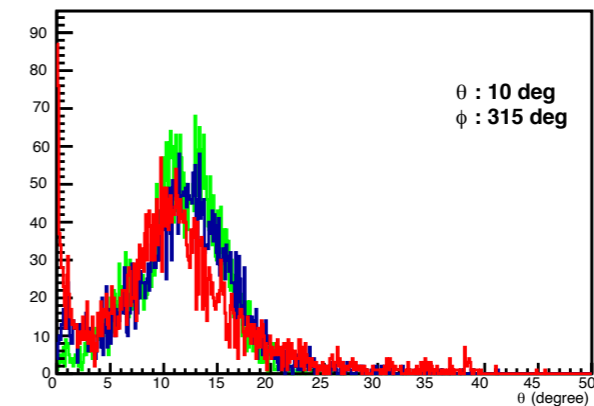
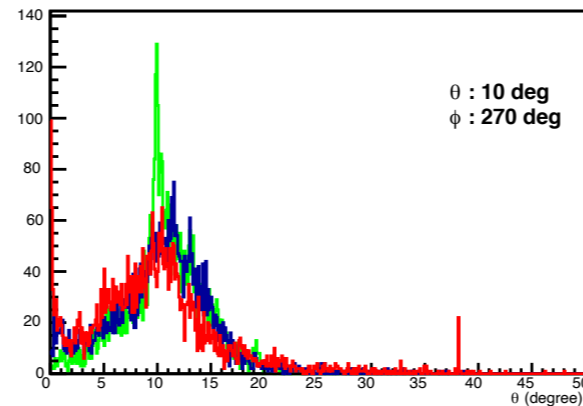
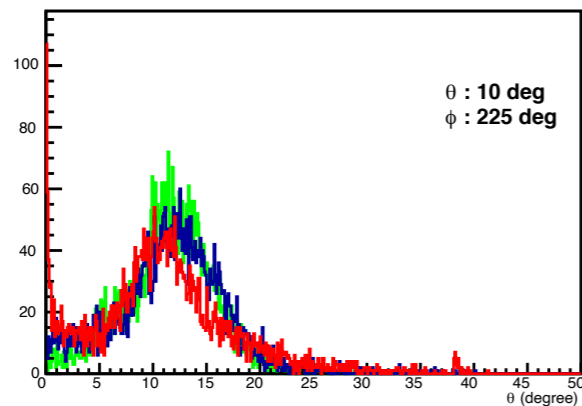
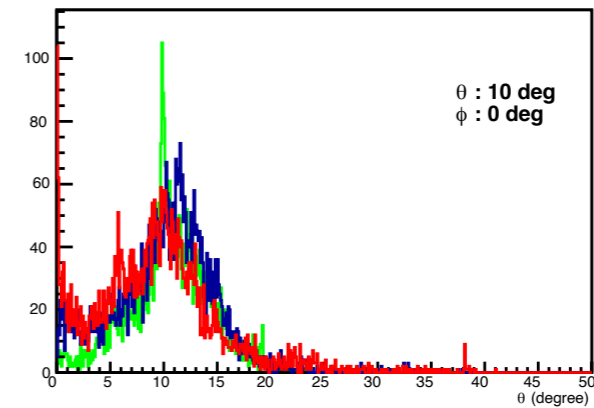
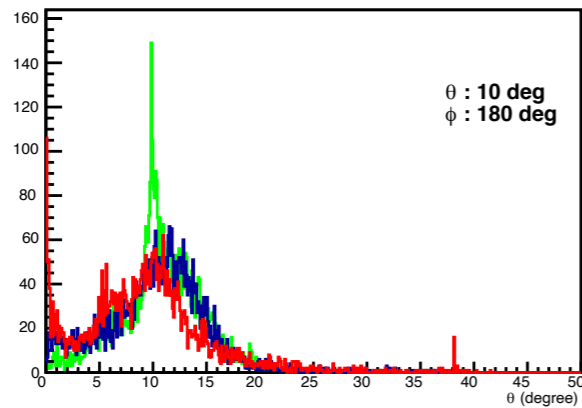
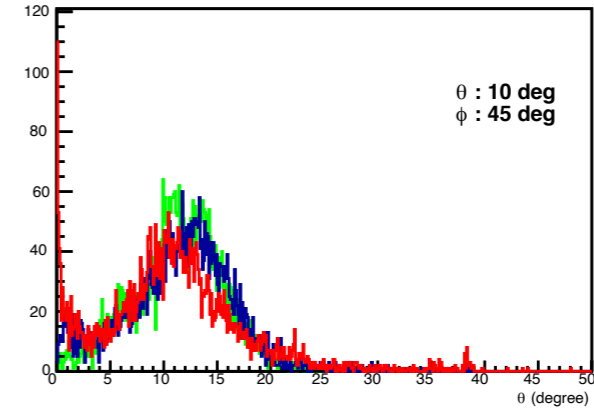
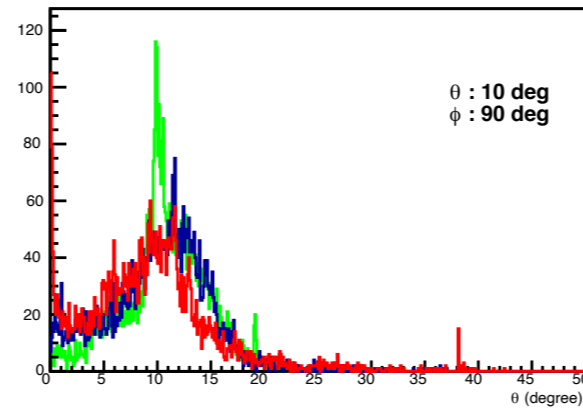
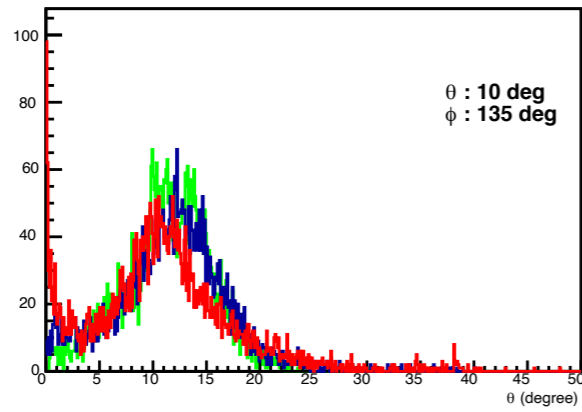


RooFit vs TF fit results vs Limited range

RooFit

TF fit

$\pm 5^\circ$ range (original method)

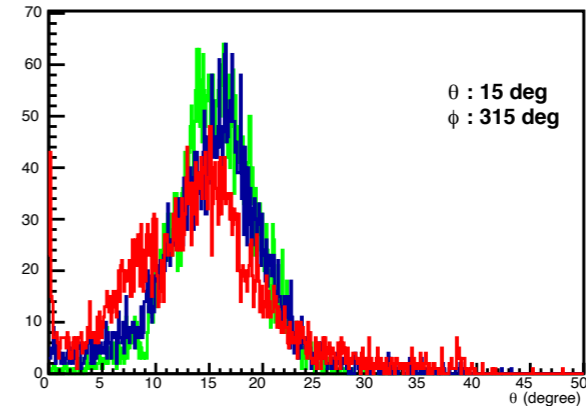
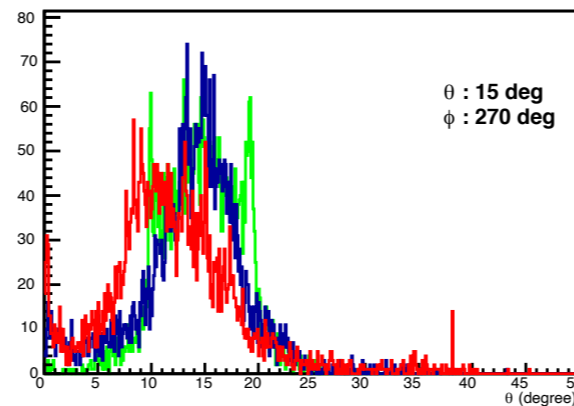
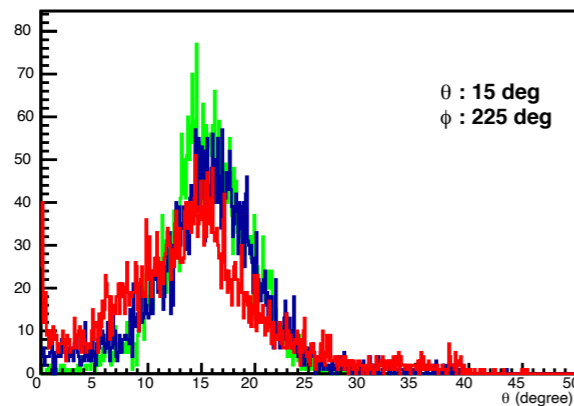
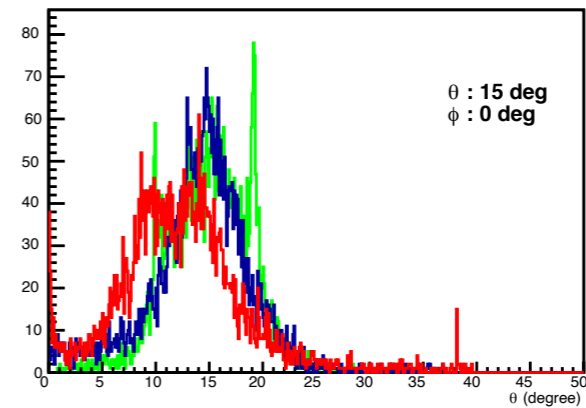
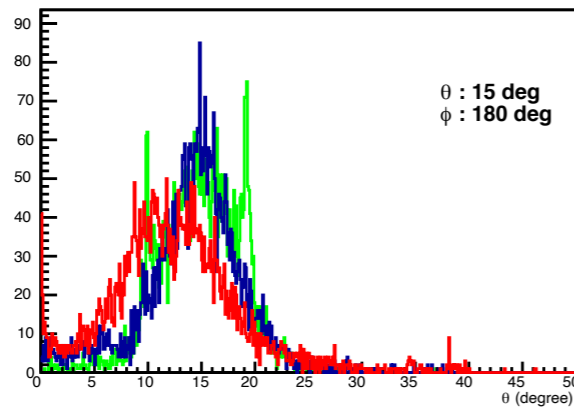
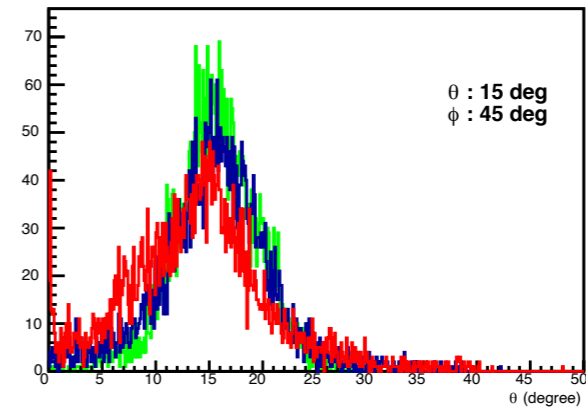
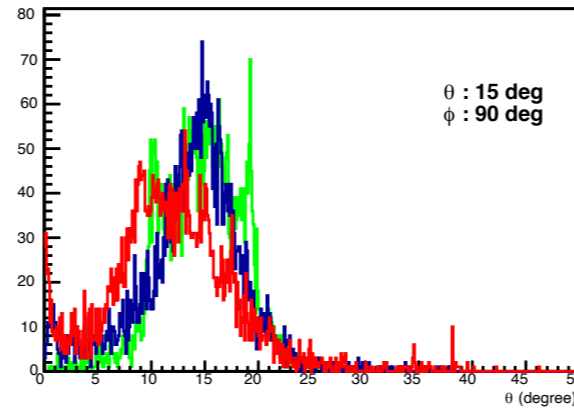
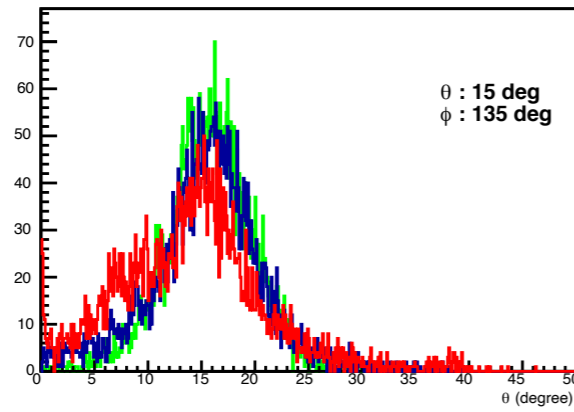


RooFit vs TF fit results vs Limited range

RooFit

TF fit

$\pm 5^\circ$ range (original method)

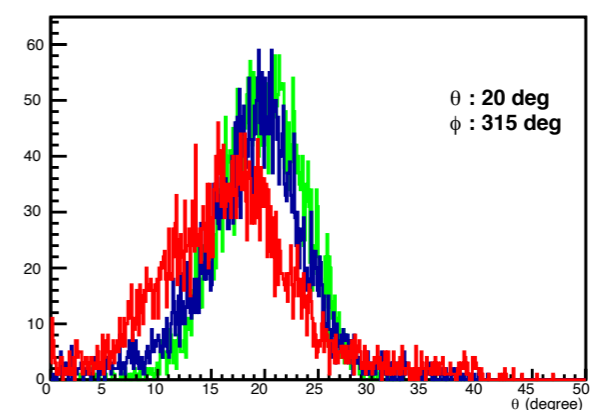
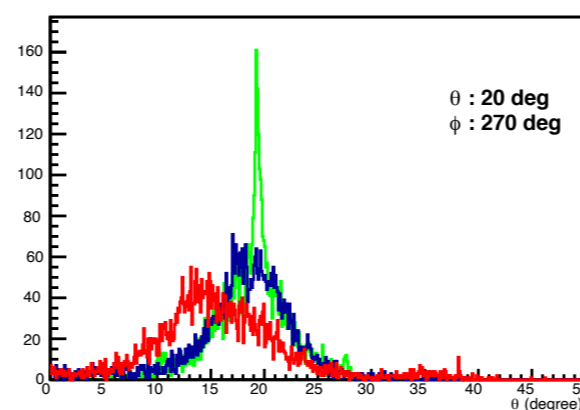
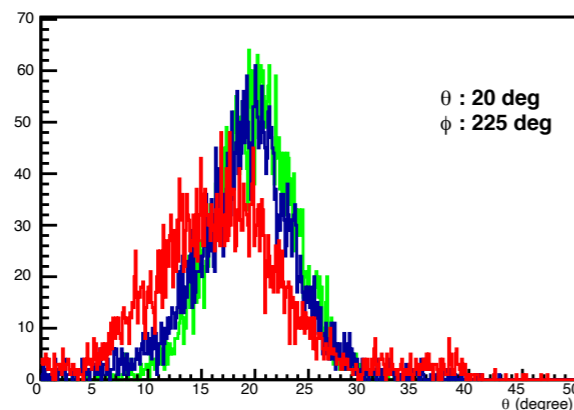
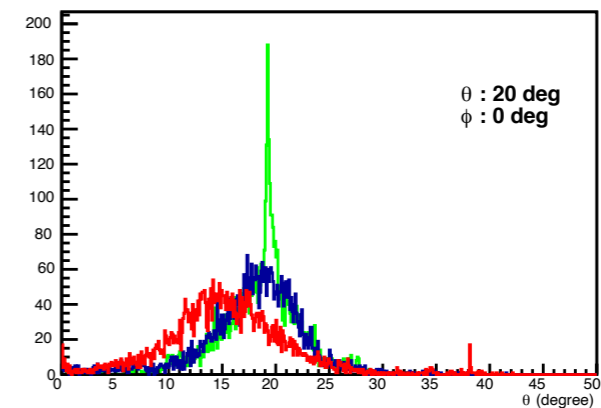
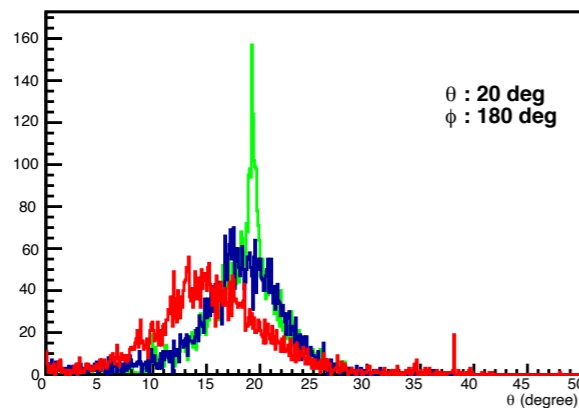
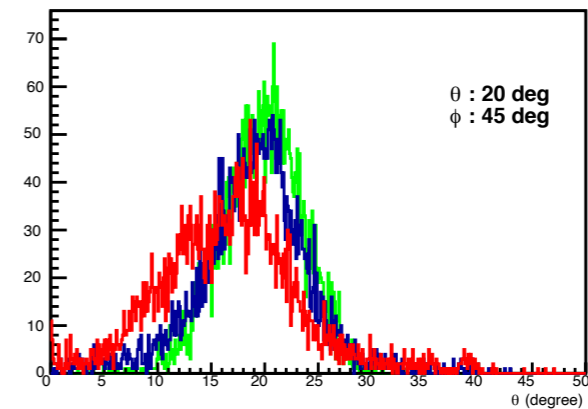
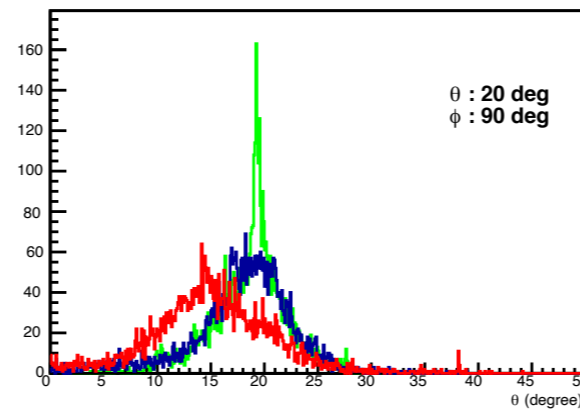
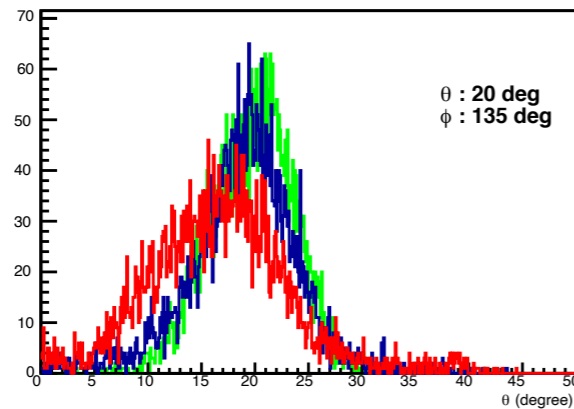


RooFit vs TF fit results vs Limited range

RooFit

TF fit

$\pm 5^\circ$ range (original method)

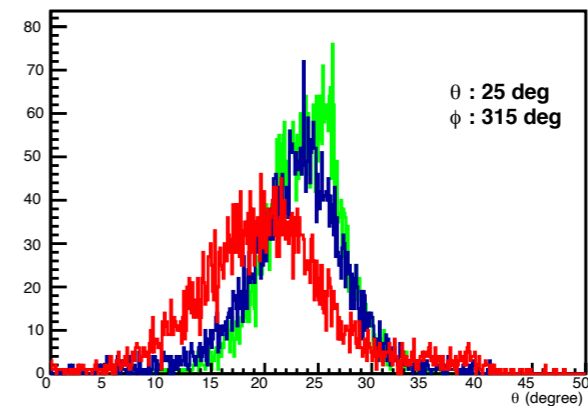
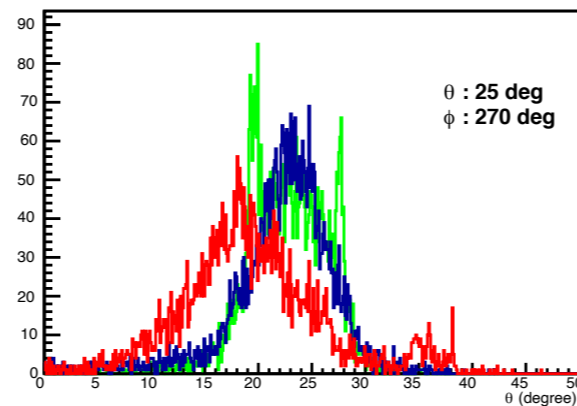
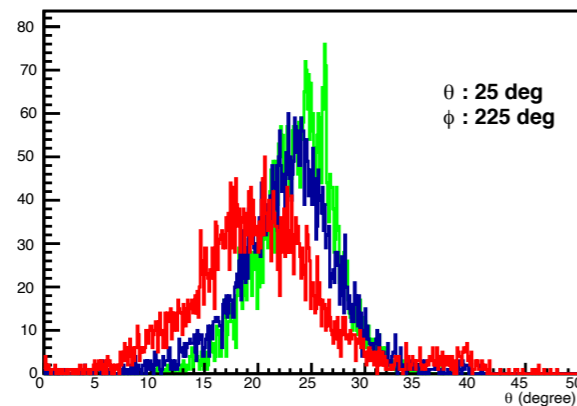
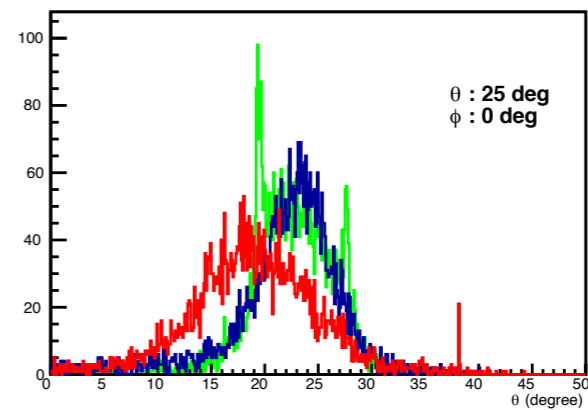
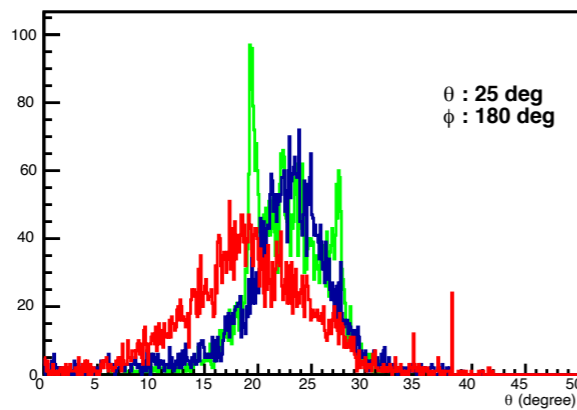
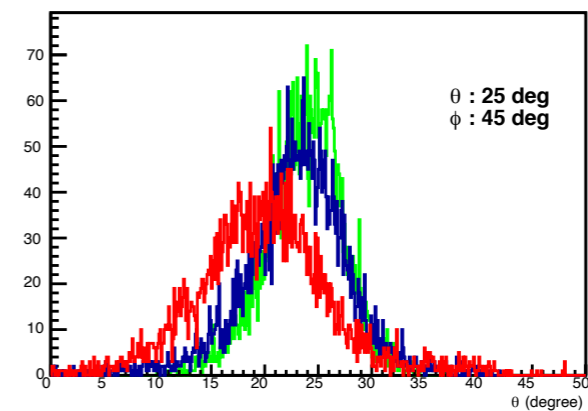
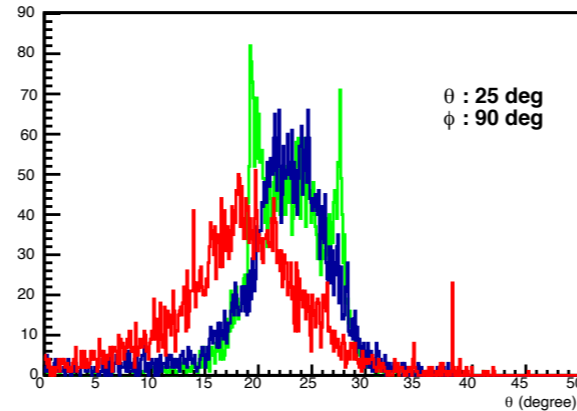
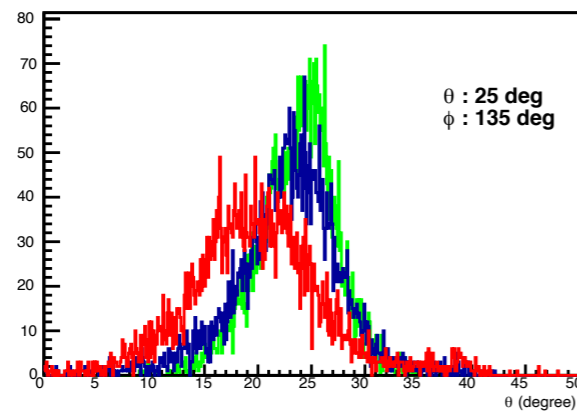


RooFit vs TF fit results vs Limited range

RooFit

TF fit

$\pm 5^\circ$ range (original method)

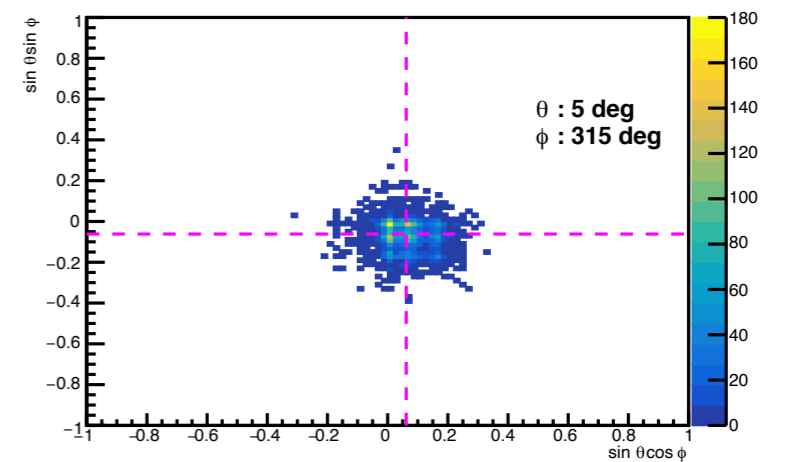
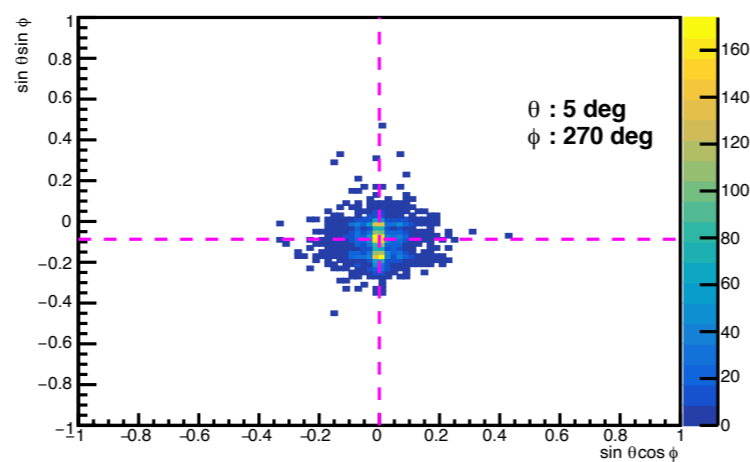
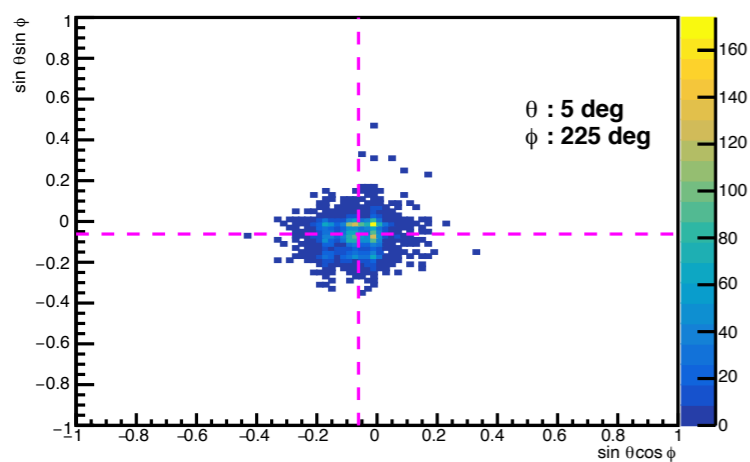
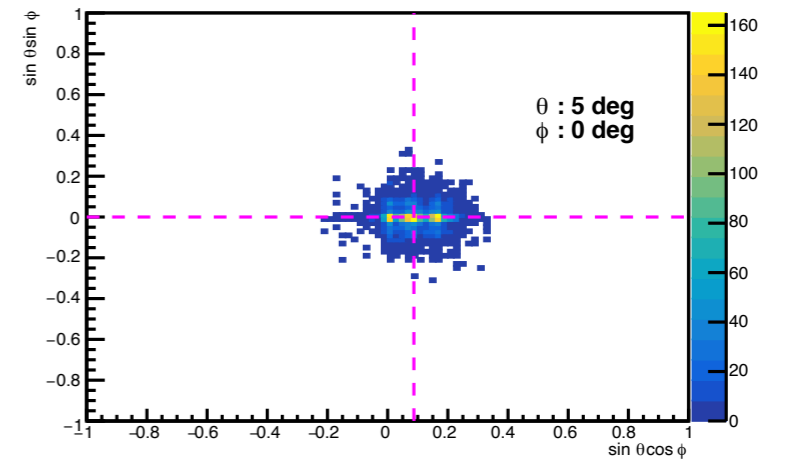
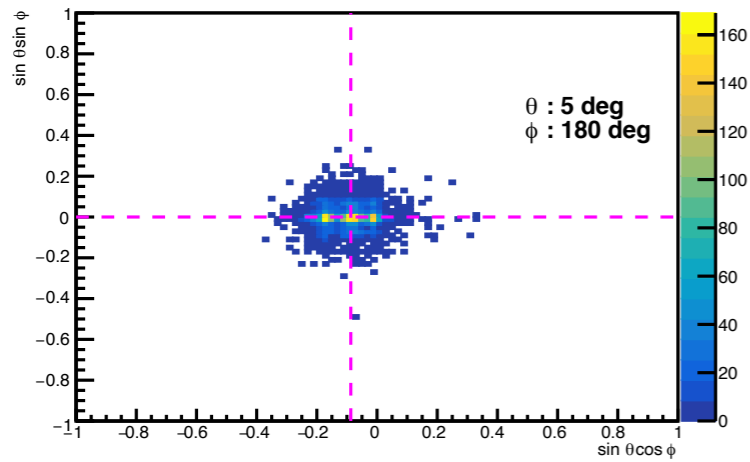
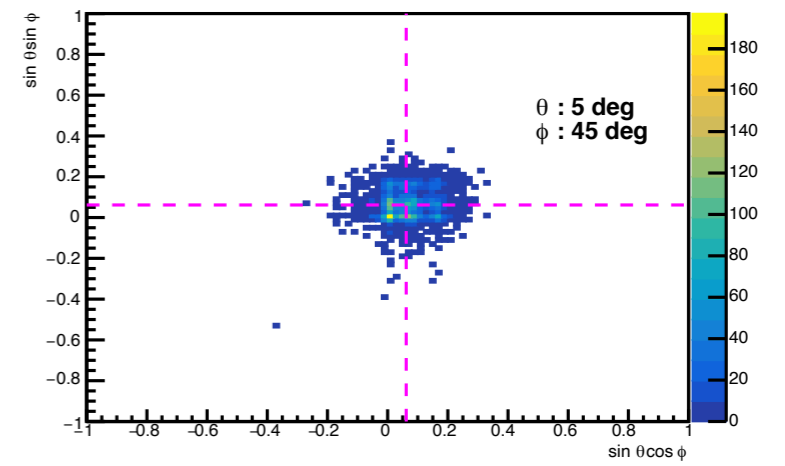
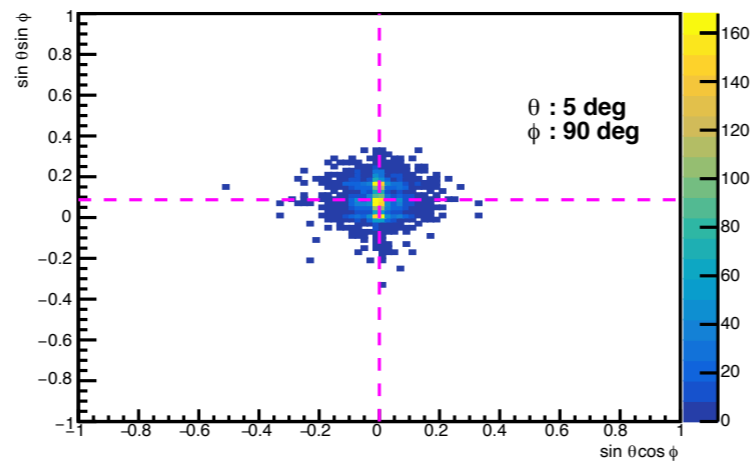
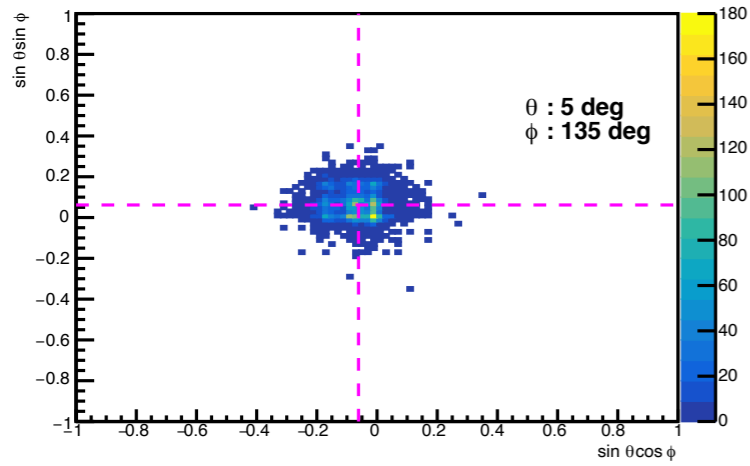


Summary

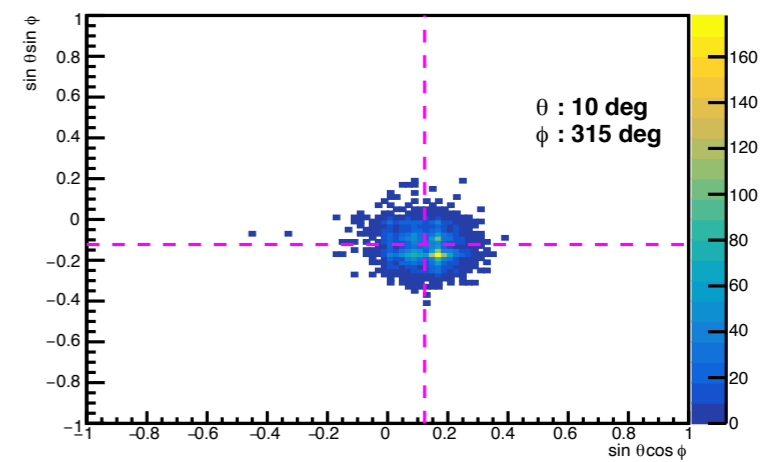
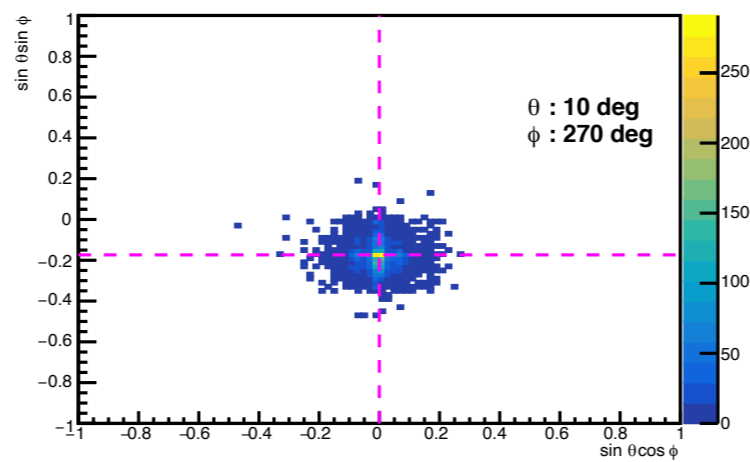
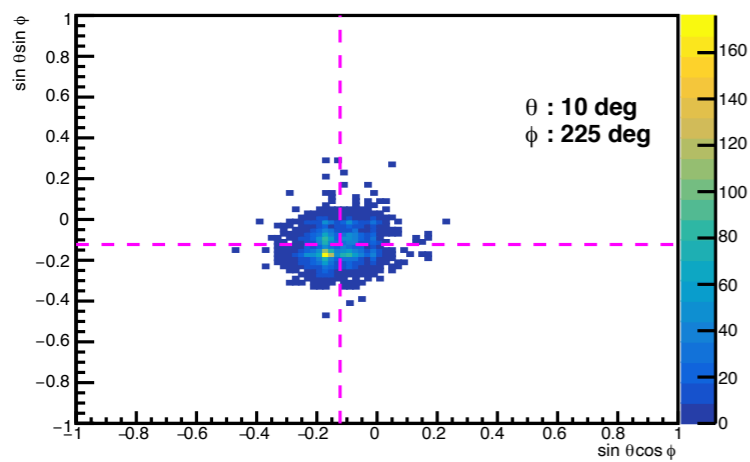
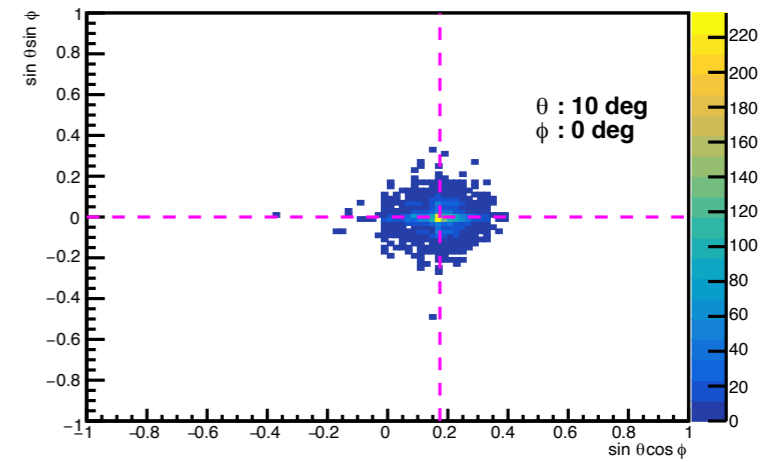
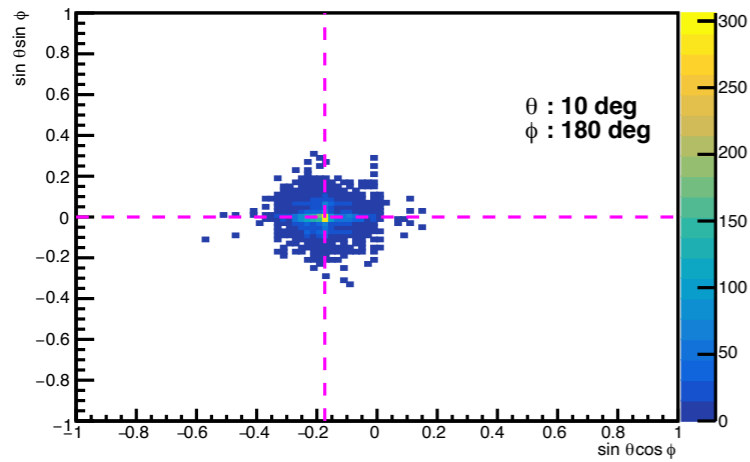
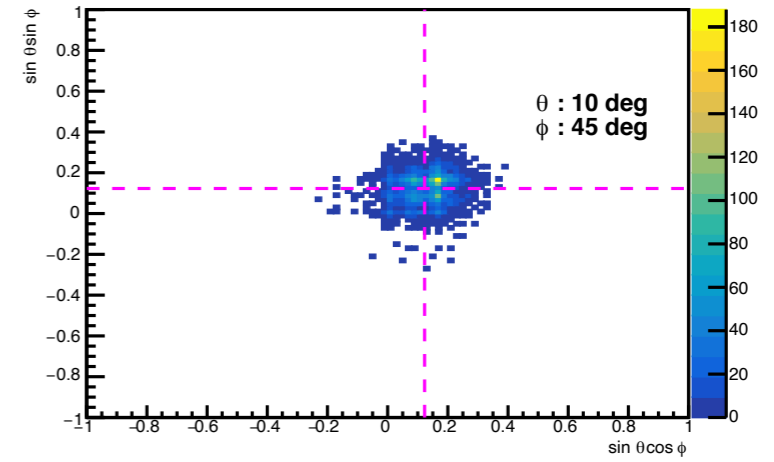
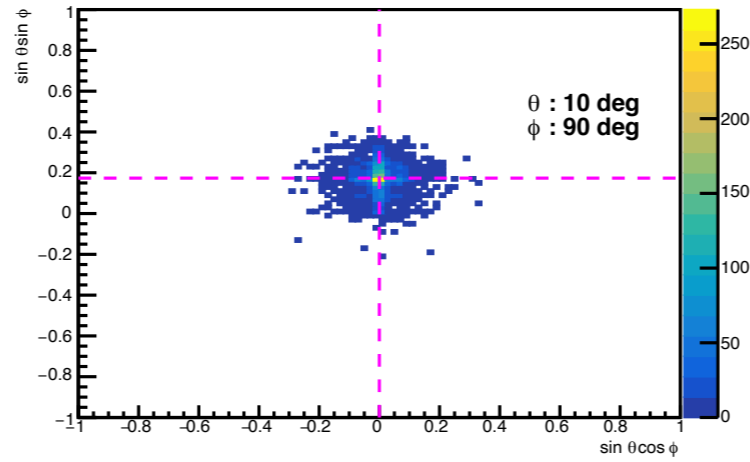
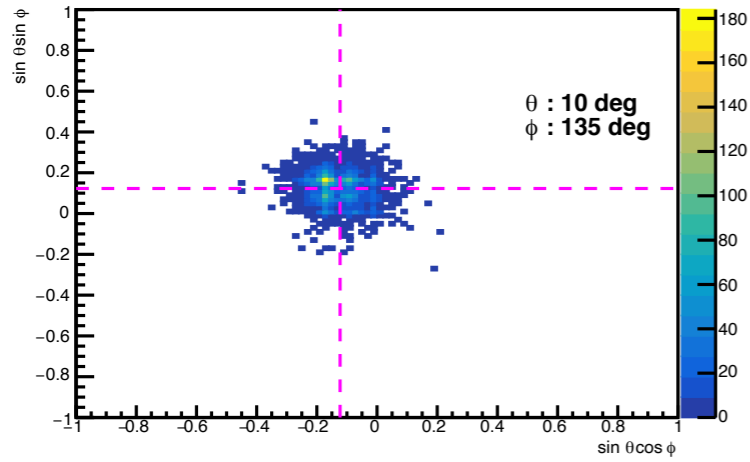
- RooFit result seems worse than TF2 fit function.
 - Even it's not a fitting with limited range
- Need to check
 - Fitting with fine segmentation (or uniform layer)

back up

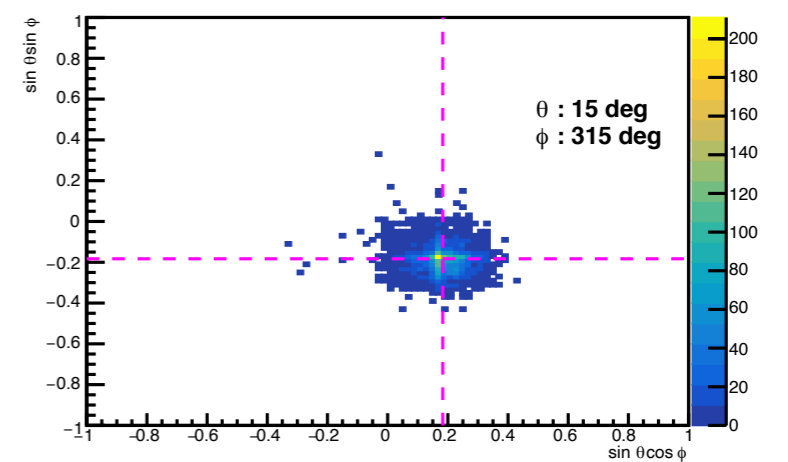
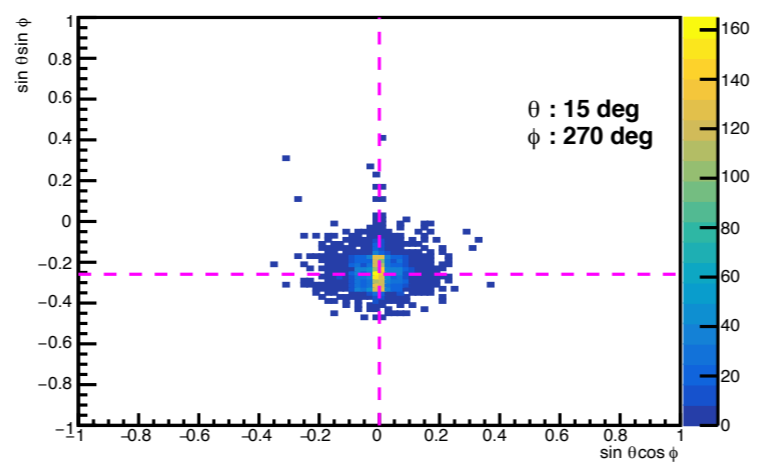
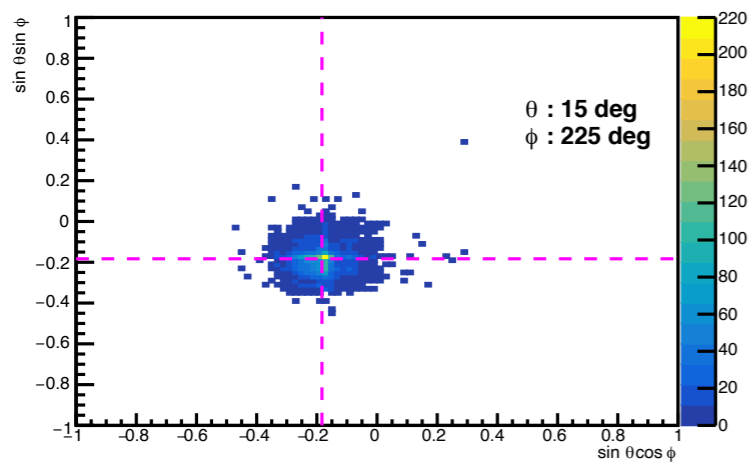
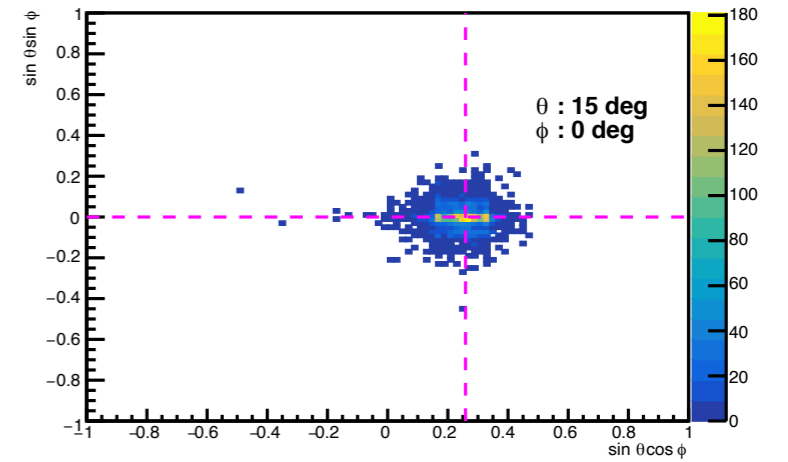
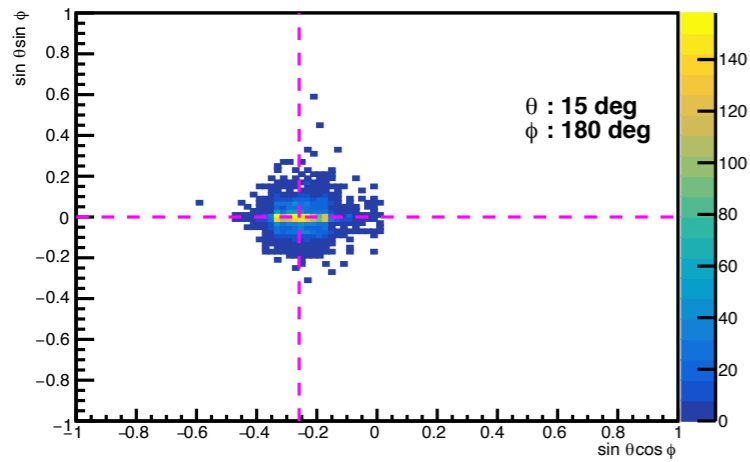
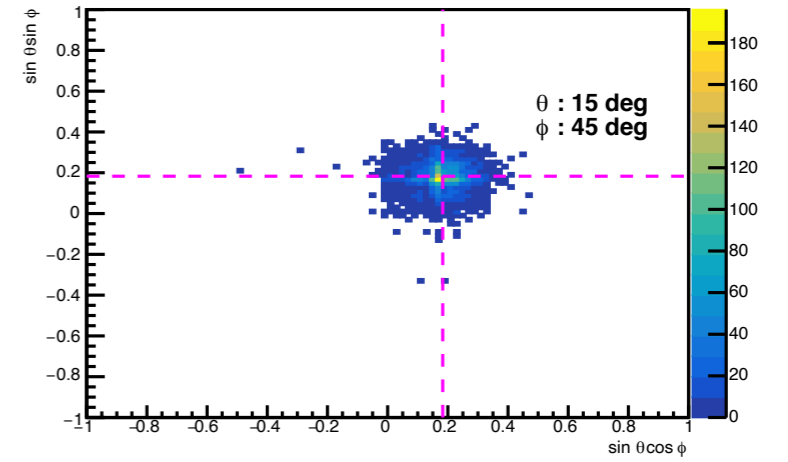
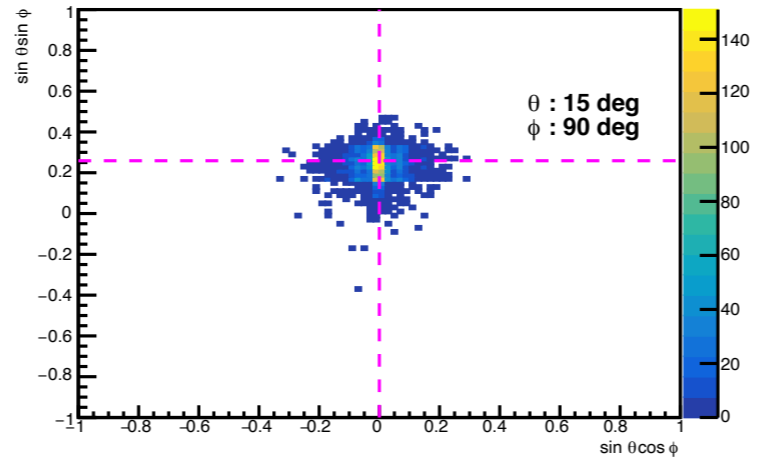
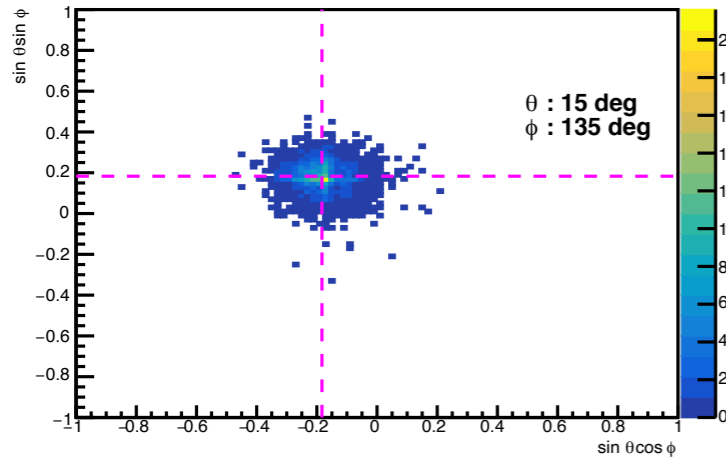
3x5 Clustering, 5 deg



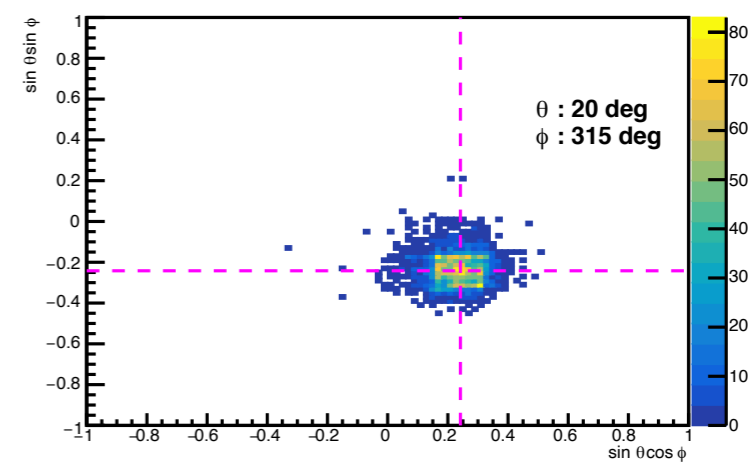
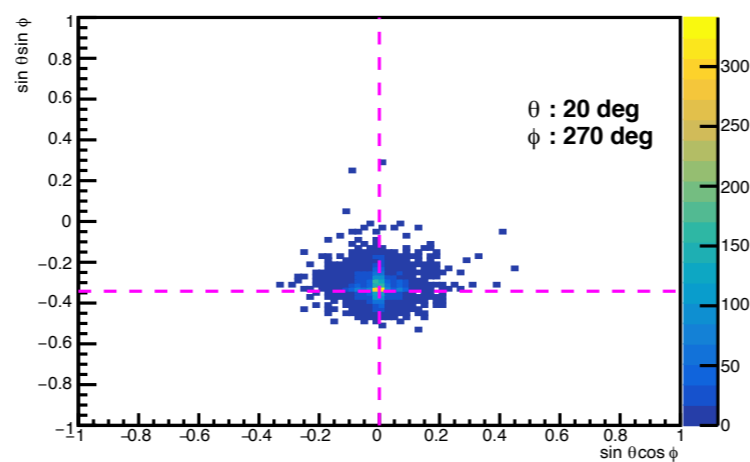
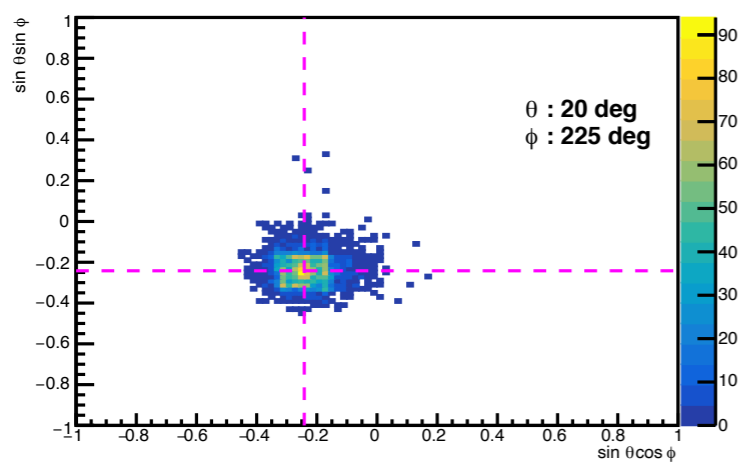
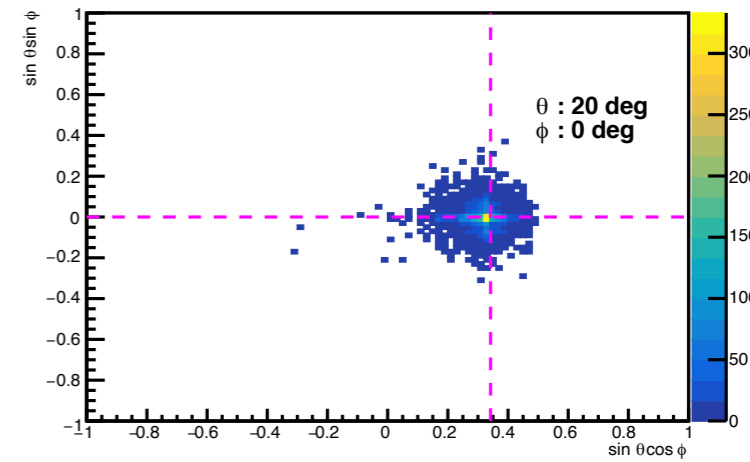
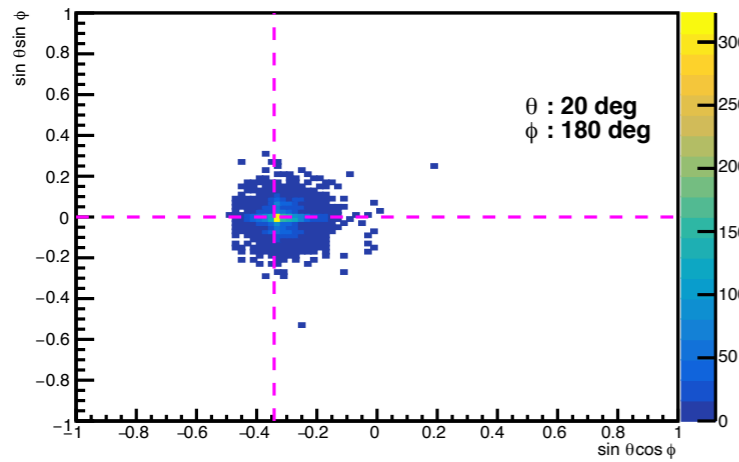
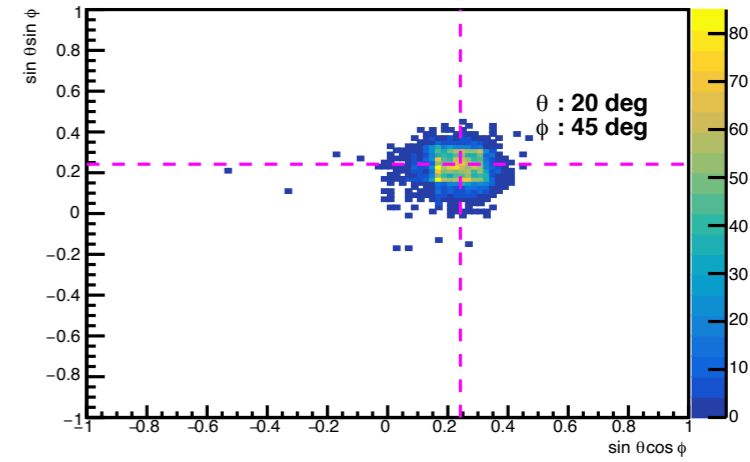
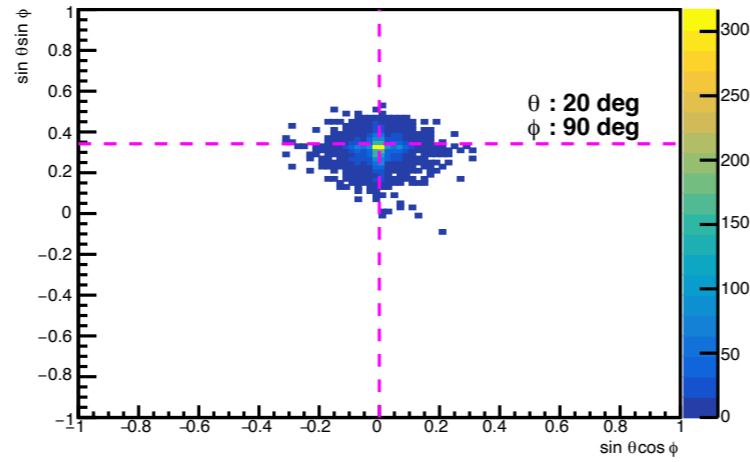
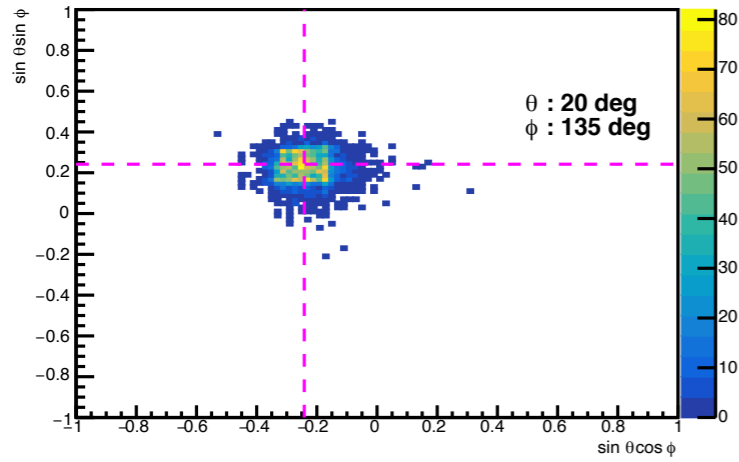
3x5 Clustering, 10 deg



3x5 Clustering, 15 deg



3x5 Clustering, 20 deg



3x5 Clustering, 25 deg

