

Fixes on QA procedure and on Loop All in CgemLineFit

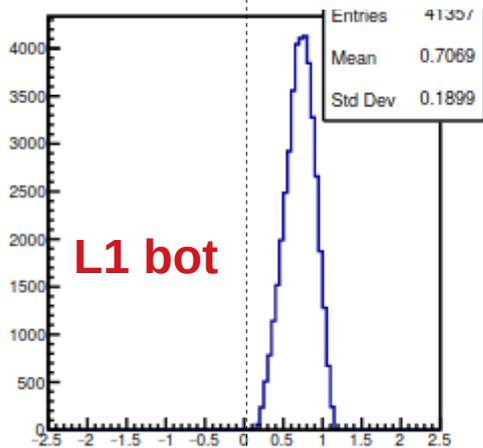
Lia Lavezzi

2020-11-05

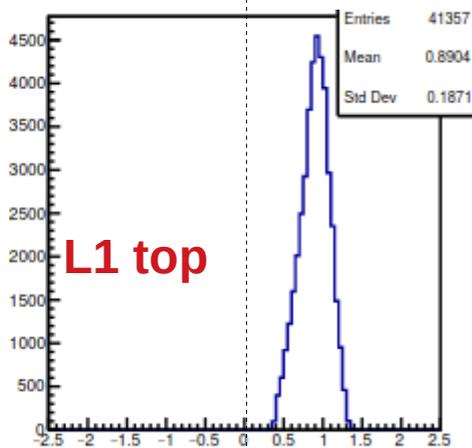
FIXED: QA procedure

- ISSUE: residuals from QA not centered at zero

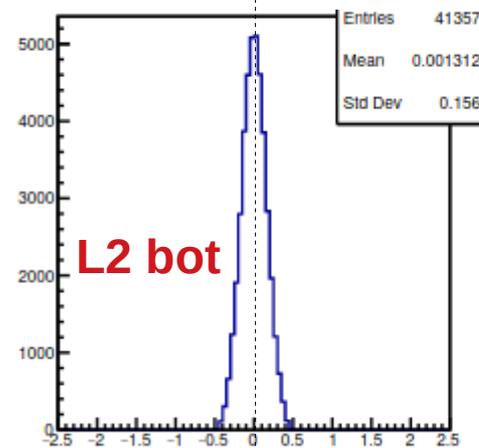
r_e $r^*\phi$ residual



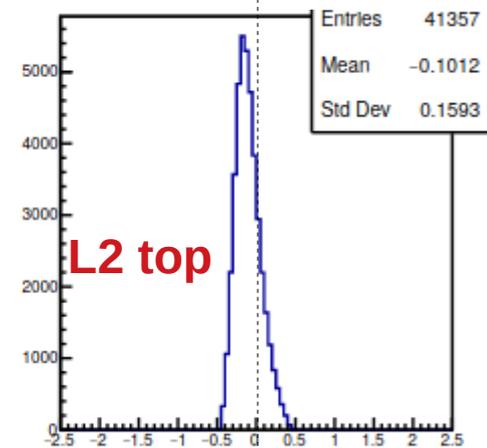
$r^*\phi$ residual



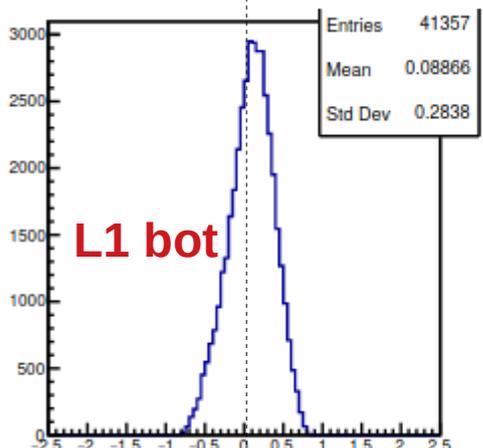
$r^*\phi$ residual



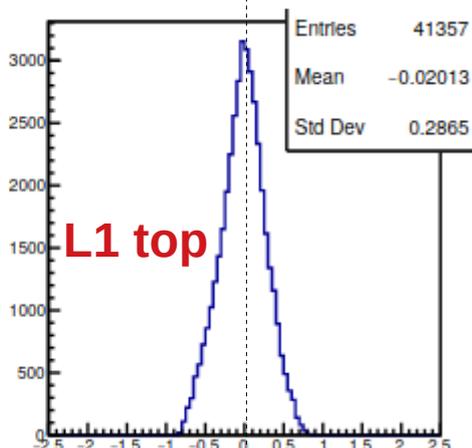
$r^*\phi$ residual



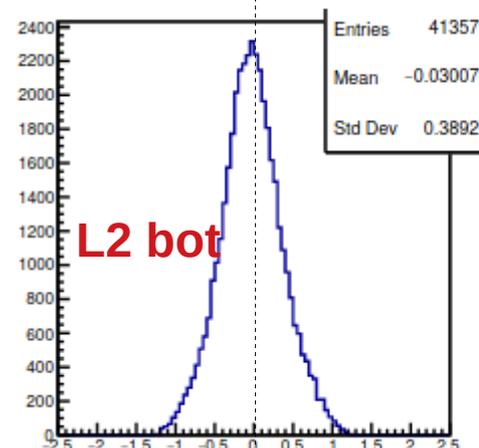
r_e z residual



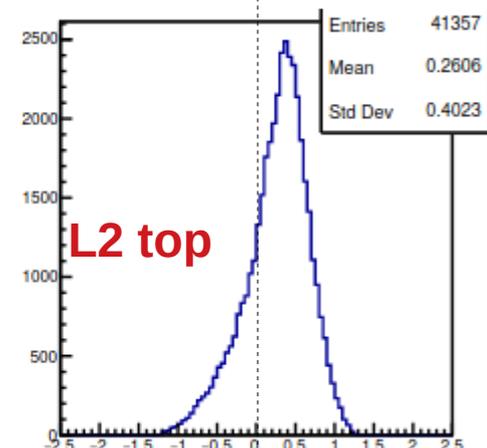
z residual



z residual

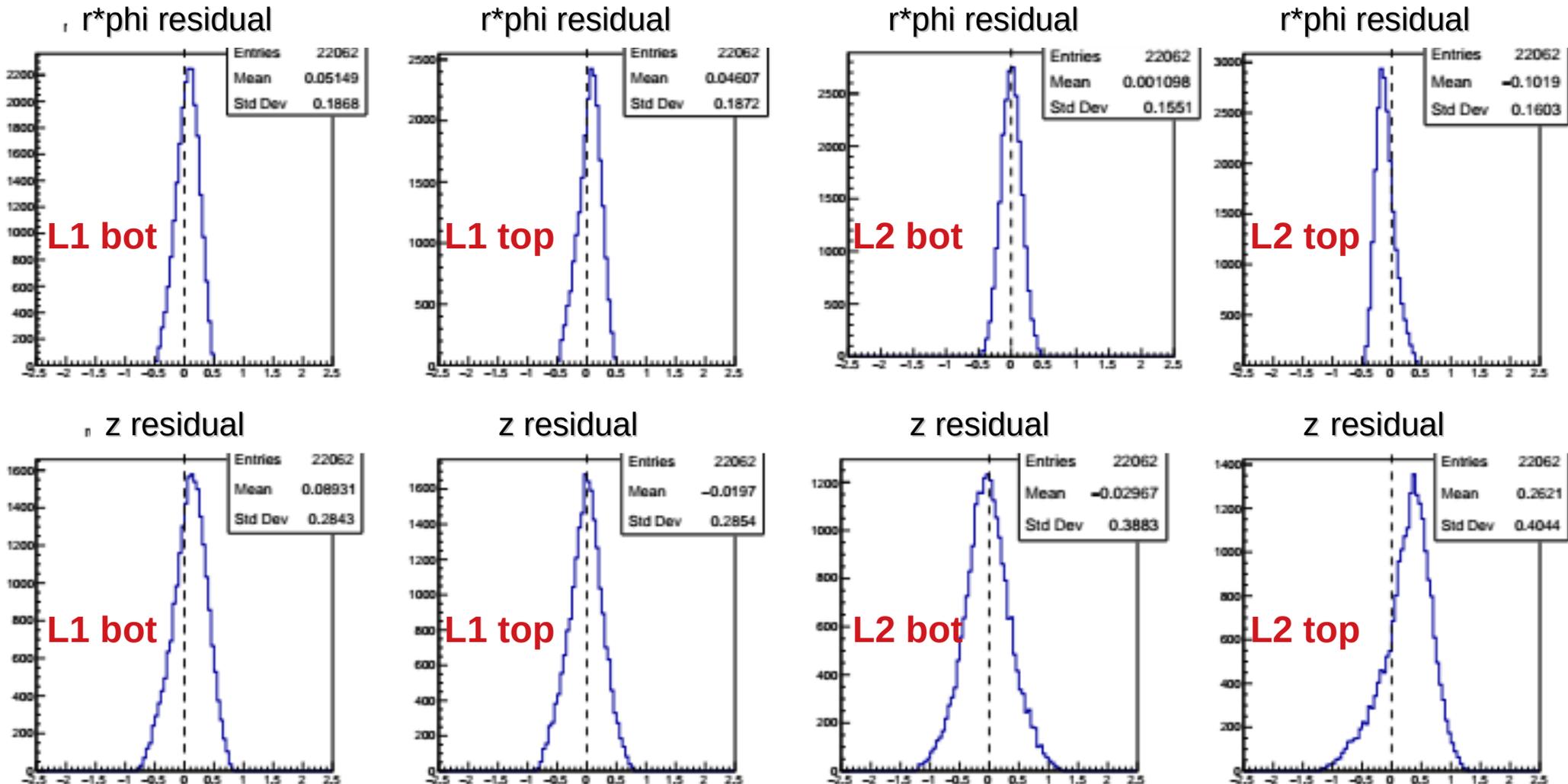


z residual



FIXED: QA procedure

- **SOLVED:** There was a missing `align_flag=true` when calling `TestTrue` so one translation from non-aligned frame to aligned one was missing
- Thanks to Aiqiang and Marco for helping me re-testing and comparing the residuals!
- I will fix the delivered jobOption on CVS



FIXED: LoopAll procedure

- Alignment **on**, parameters are:

Elements	DeltaX(mm)	DeltaY(mm)	DeltaZ(mm)	RX(rad)	RY(rad)	RZ(rad)
layer1	0.0889837	0.0000000	1.8009692	0.0000000	0.0000000	-0.0092171
layer2	0.0000000	-0.0000000	-0.0000000	0.0000000	0.0000000	0.0000000
layer3	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

- LoopAll** algorithm
- Test all the layers**, one by one
- ISSUE: L1 TOP and L2 BOTTOM have problems**

L1 BOTTOM

n FITTED track	120502
n VALID track (after cuts)	75089
efficiency	0.8520955133
background component	0.0238117434

L1 TOP

n FITTED track	0
n VALID track (after cuts)	0
efficiency	-nan
background component	-nan

L2 BOTTOM

n FITTED track	6402
n VALID track (after cuts)	3581
efficiency	0.8553476682
background component	0.01396258028

L2 TOP

n FITTED track	126655
n VALID track (after cuts)	81455
efficiency	0.8554907618
background component	0.01419188509

FIXED: LoopAll procedure

- Alignment **on**, parameters are:

Elements	DeltaX(mm)	DeltaY(mm)	DeltaZ(mm)	RX(rad)	RY(rad)	RZ(rad)
layer1	0.0889837	0.0000000	1.8009692	0.0000000	0.0000000	-0.0092171
layer2	0.0000000	-0.0000000	-0.0000000	0.0000000	0.0000000	0.0000000
layer3	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000

- **LoopAll** algorithm
- **Test all the layers**, one by one
- **SOLUTION: by Aiqiang (thanks!) → add the sorting of clusters**
- I will upload the change to CVS

L1 BOTTOM

n FITTED track	139581
n VALID track (after cuts)	84382
efficiency	0.8382474935
background component	0.02281292219

L1 TOP

n FITTED track	137493
n VALID track (after cuts)	84509
efficiency	0.8531990676
background component	0.01951271462

L2 BOTTOM

n FITTED track	132768
n VALID track (after cuts)	82964
efficiency	0.8411961815
background component	0.01563328673

L2 TOP

n FITTED track	132910
n VALID track (after cuts)	84884
Efficiency	0.8391216248
background component	0.01512652561