FVTX Trigger Technical Instruction

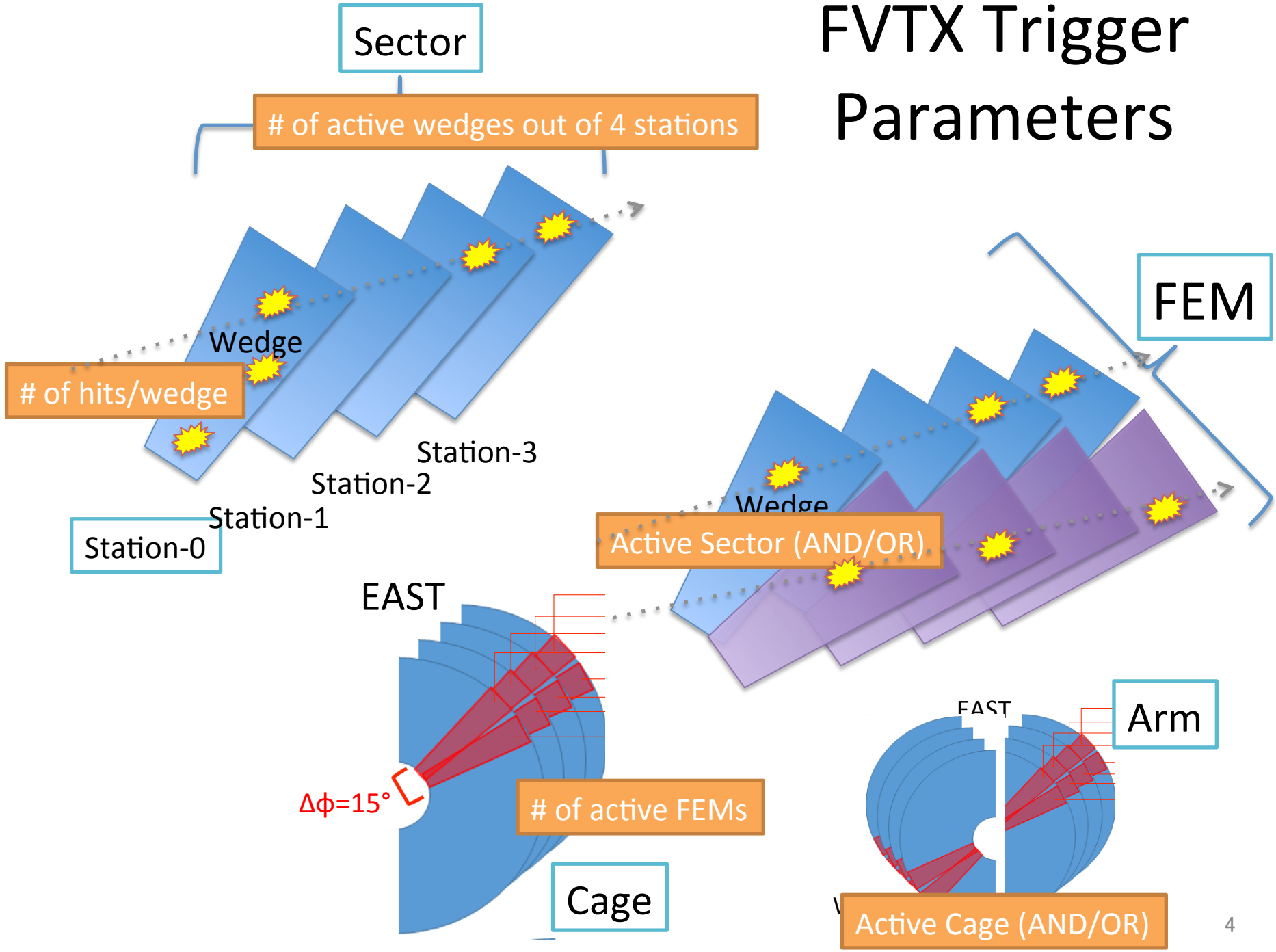
Emulator Materials

- CVS Repository
  - online/fvtx/Emul
- wiki (offline wiki->FVTX->FVTX Trigger->Emulator)
  - https://www.phenix.bnl.gov/WWW/offline/wikioff/index.php/Dst_production
  - https://www.phenix.bnl.gov/WWW/offline/wikioff/index.php/Emulator

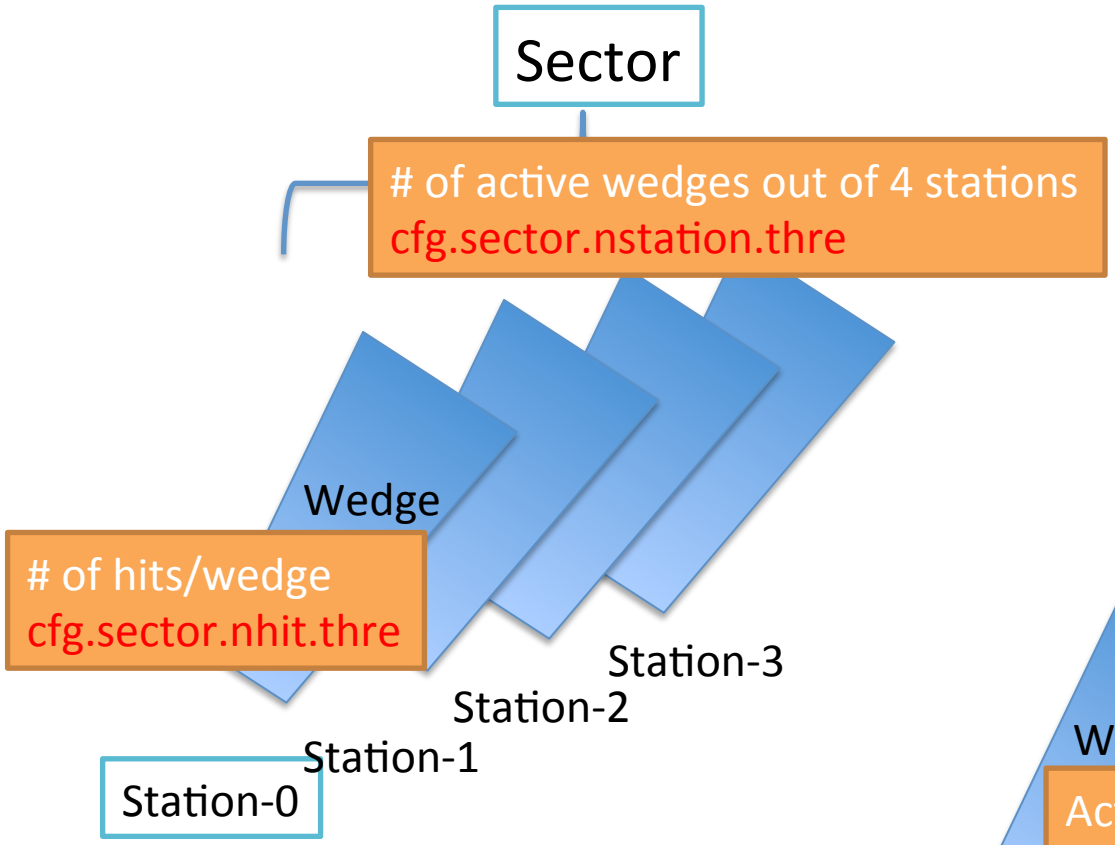
Input file

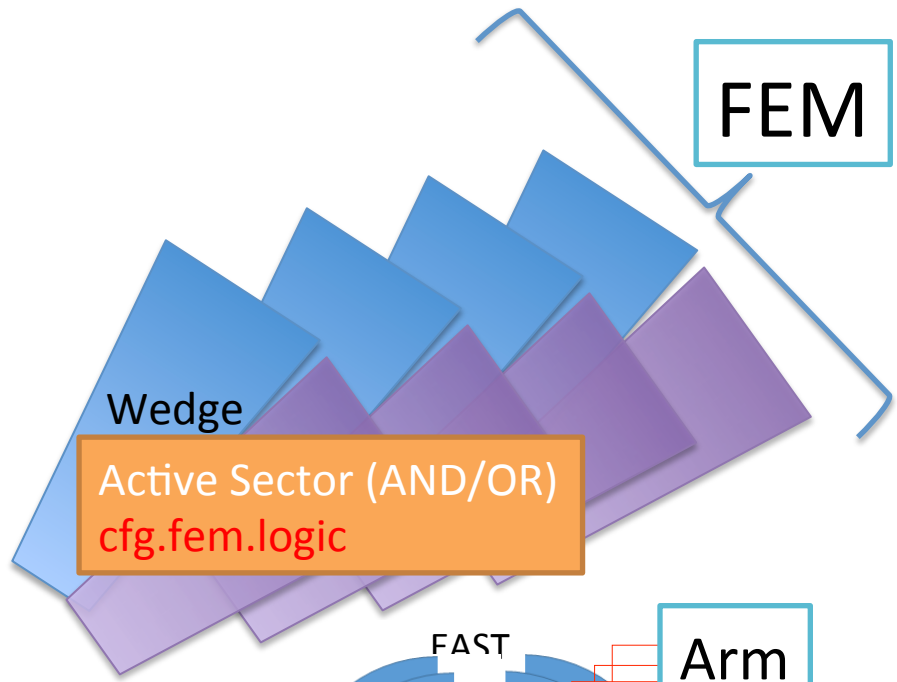
```
[itaru@rcas2078 Emul]$ cat Emul.in
cfg.adc.thre              = 1
cfg.sector.nstation.thre = 3
cfg.sector.nhit.thre      = 1
cfg.cage.thre             = 6
cfg.fem.logic             = OR
cfg.arm.logic             = AND
//cfg.mode                  = exclusive
cfg.mode                  = multitrack
//cfg.mode                = multihit
//cfg.combination           = coincidence
cfg.combination           = single
[itaru@rcas2078 Emul]$
```

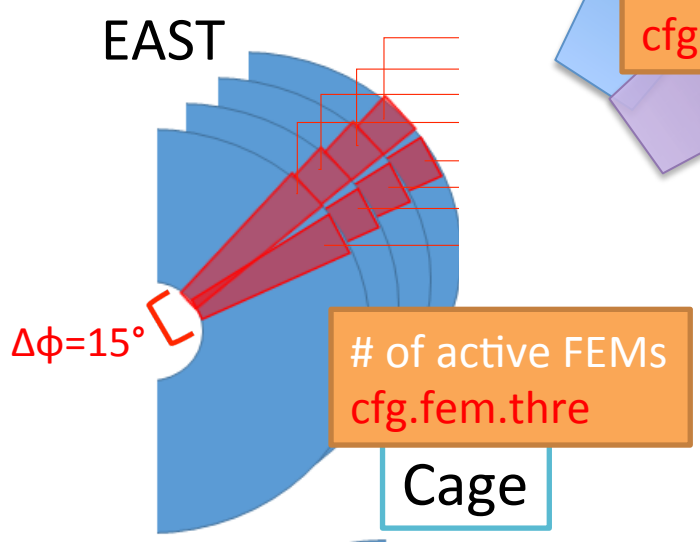
FVTX Trigger Parameters

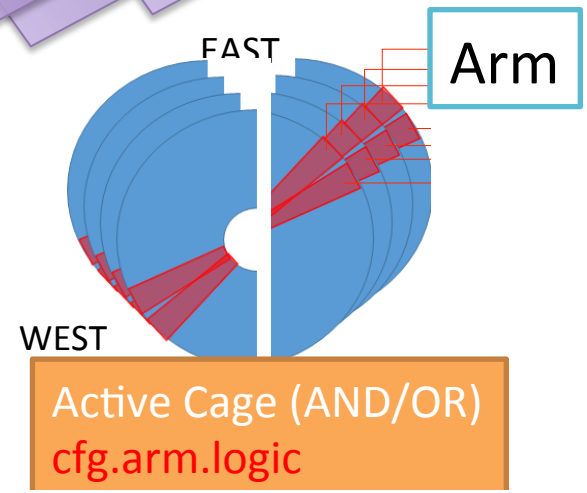


FVTX Trigger Parameters

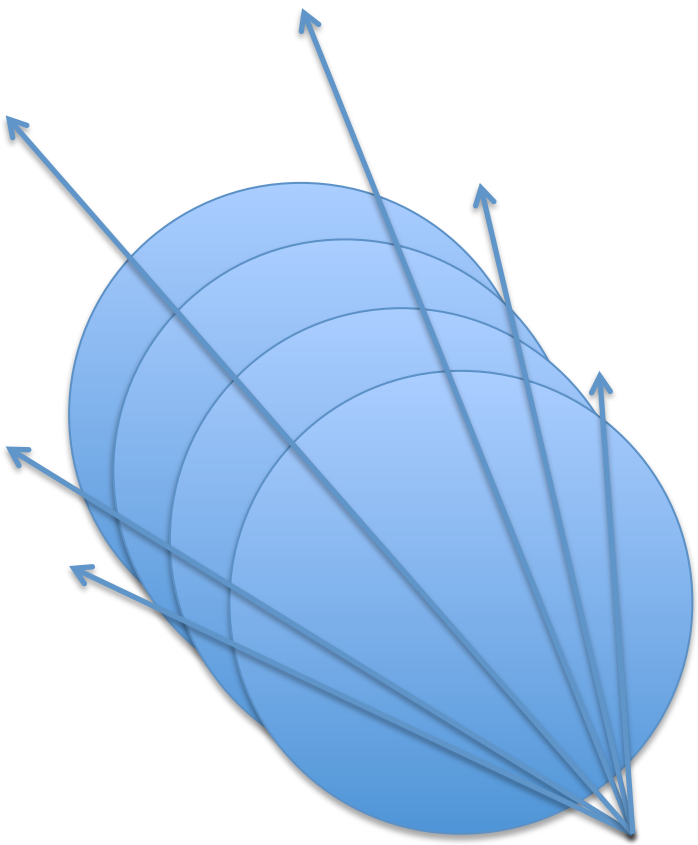




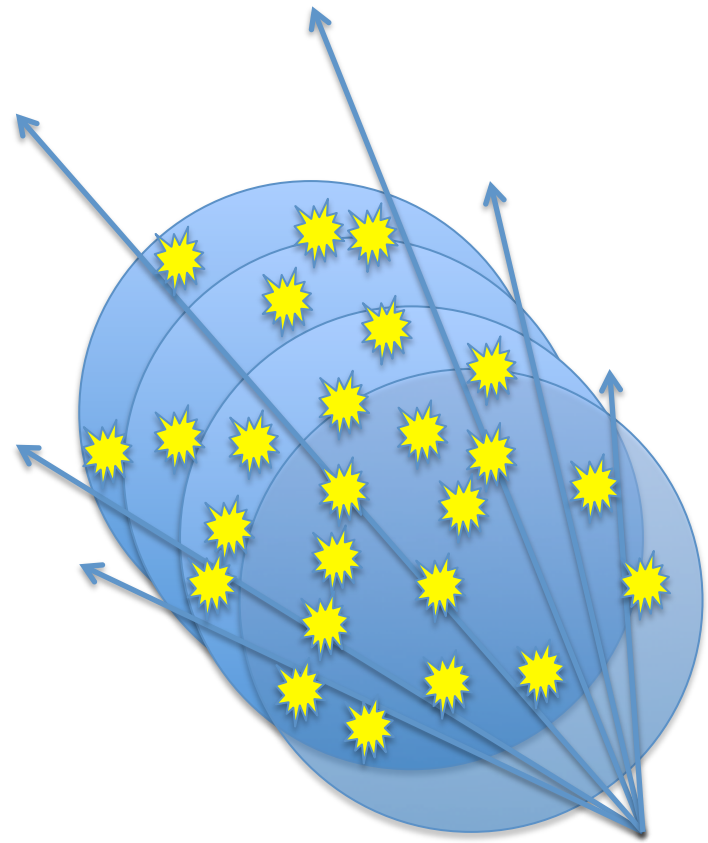




Trigger Modes



Multi Track Mode



Multi Hit Mode

Output File

Emul.out

```
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North trigger configurations
=======================================================
cfg.mode                 = multitrack
cfg.adc.thre             = 1
cfg.sector.nstation.thre = 3
cfg.sector.nhit.thre     = 1
cfg.cage.thre            = 1
cfg.fem.logic            = OR
cfg.arm.logic            = OR
cfg.combination          = single
=======================================================

Trigger Bit             = 0x800
Trigger                 = South
Trigger Scaler          = lvl1_trigraw
Total number of entries = 1000
Predicted Events        = 846
Rejection Power         = 1
Purity #track>20        = 0.030
Purity #track>25        = 0.005
Trigger Efficiency      =       1.00 +/-      0.050
Trigger Turn on         =       0.34 +/-    601.300
Trigger sigma           =       0.03 +/-    105.881
Figure of Merit         =       0.03
Fired Trigger           =       1000
Pred  Trigger           =        846
Match Trigger           =        846
Match/Pred Trigger      =      1.000
Match/Fired Trigger     =      0.846

Trigger Bit             = 0x400
Trigger                 = North
Trigger Scaler          = lvl1_trigraw
Total number of entries = 1000
Predicted Events        = 812
Rejection Power         = 1
Purity #track>20        = 0.000
Purity #track>25        = 0.000
Trigger Efficiency      =       1.00 +/-      0.787
Trigger Turn on         =       0.32 +/-    165.497
Trigger sigma           =       0.04 +/-     34.623
Figure of Merit         =       0.00
Fired Trigger           =       1000
Pred  Trigger           =        812
Match Trigger           =        812
Match/Pred Trigger      =      1.000
Match/Fired Trigger     =      0.812

[itaru@rcas2078 Emul]$
```

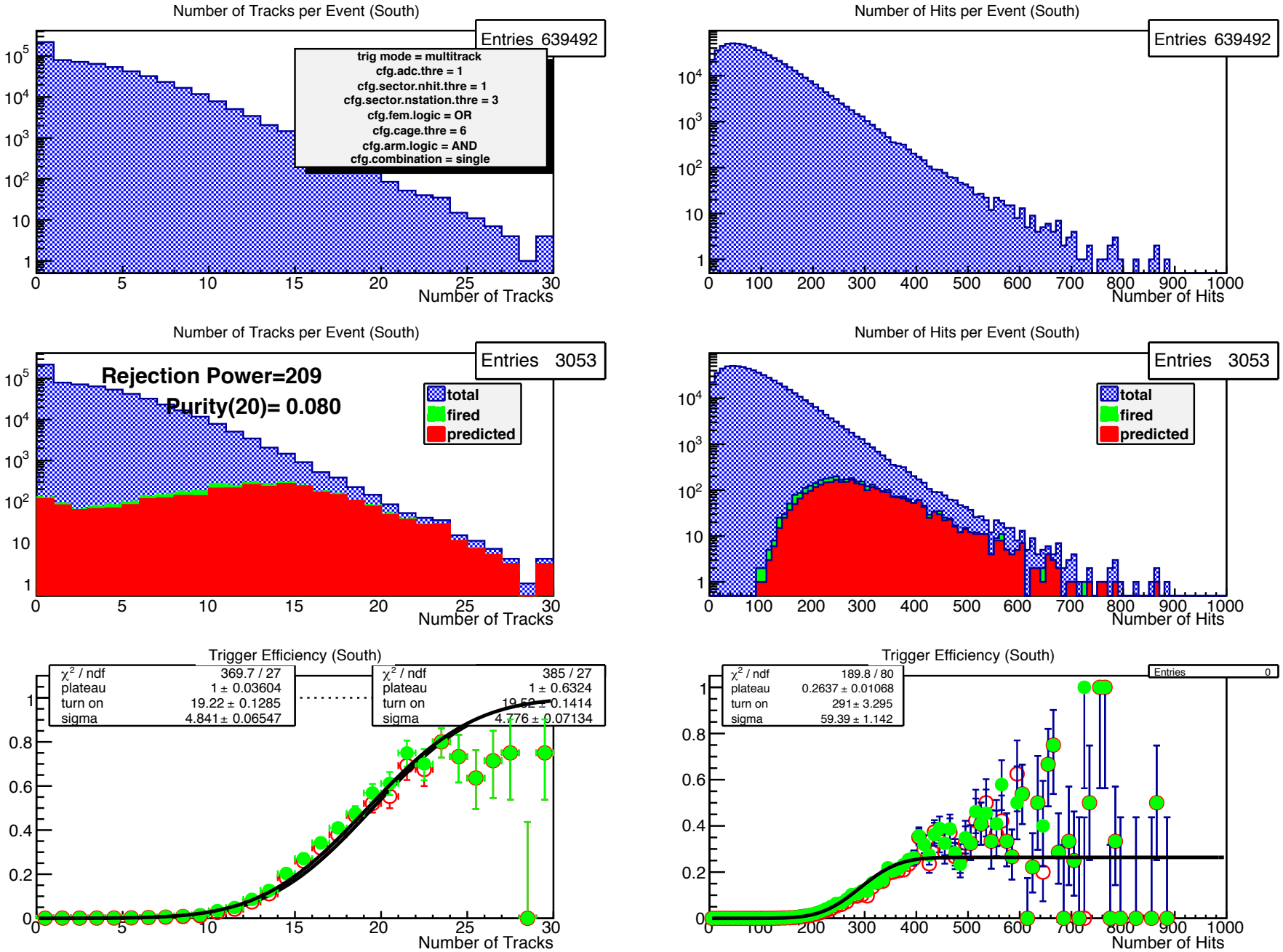

Emul South.pdf