

# Outrigger Construction Status



# Outrigger Construction Status

- **Goals:**

- Hardware status
- Sample events and distributions
- **Outstanding problems and issues**
- **Solutions?**

# Outrigger Construction Status

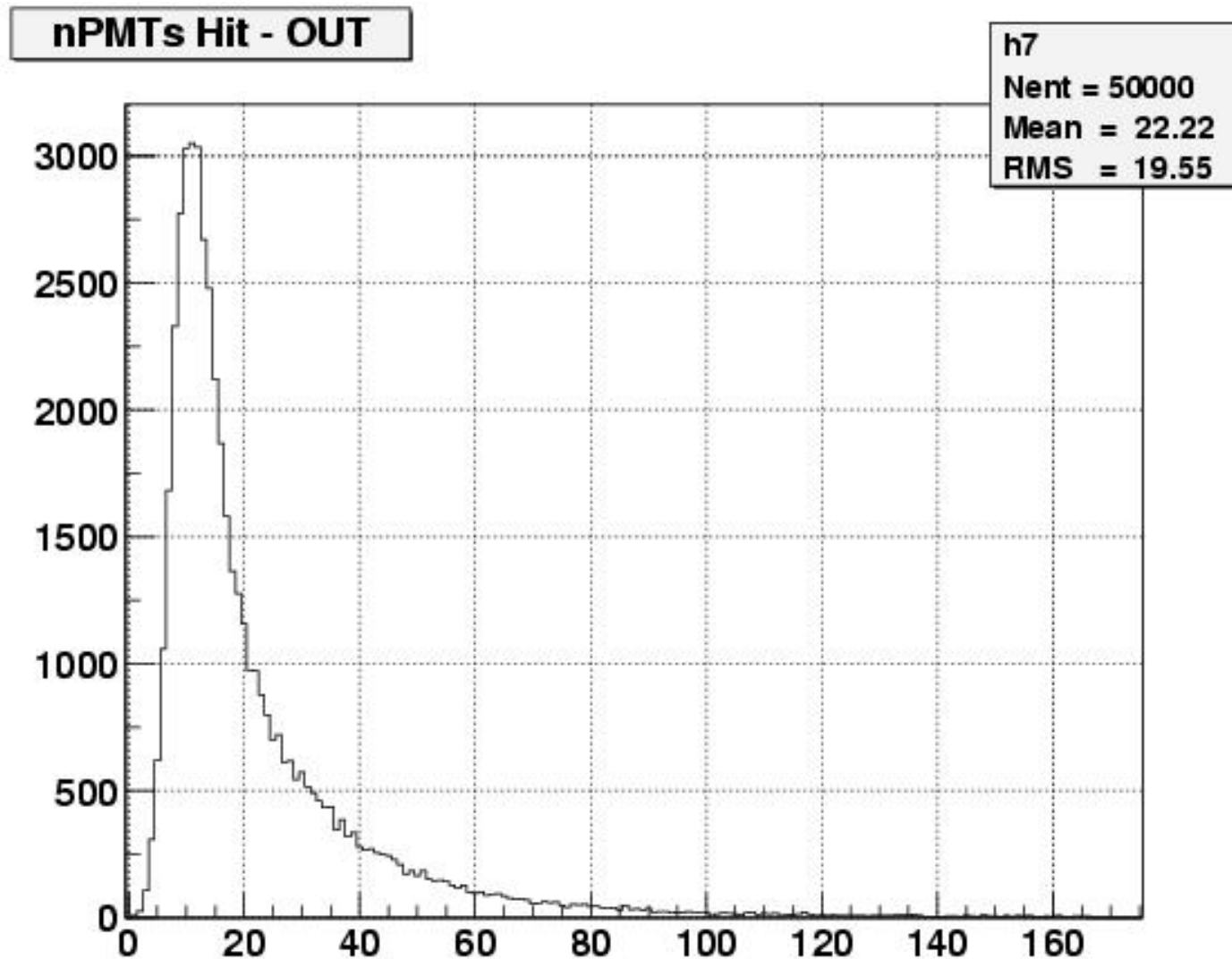
## • Hardware Status:

- **All but 5 tanks have pmts installed** (week or two to finish)
- All have fibers (some still need connectors)
- Few have  $\sim 100$  K light leaks
- Few more need light sealed so cover can be removed
- 1 has dead FE board channel (69)
- 1 low impedance (41) (critter chewed cable)
- Split 16 pmt patch into two 8 pmt patches
- One tank needs water outlet fitting (83)



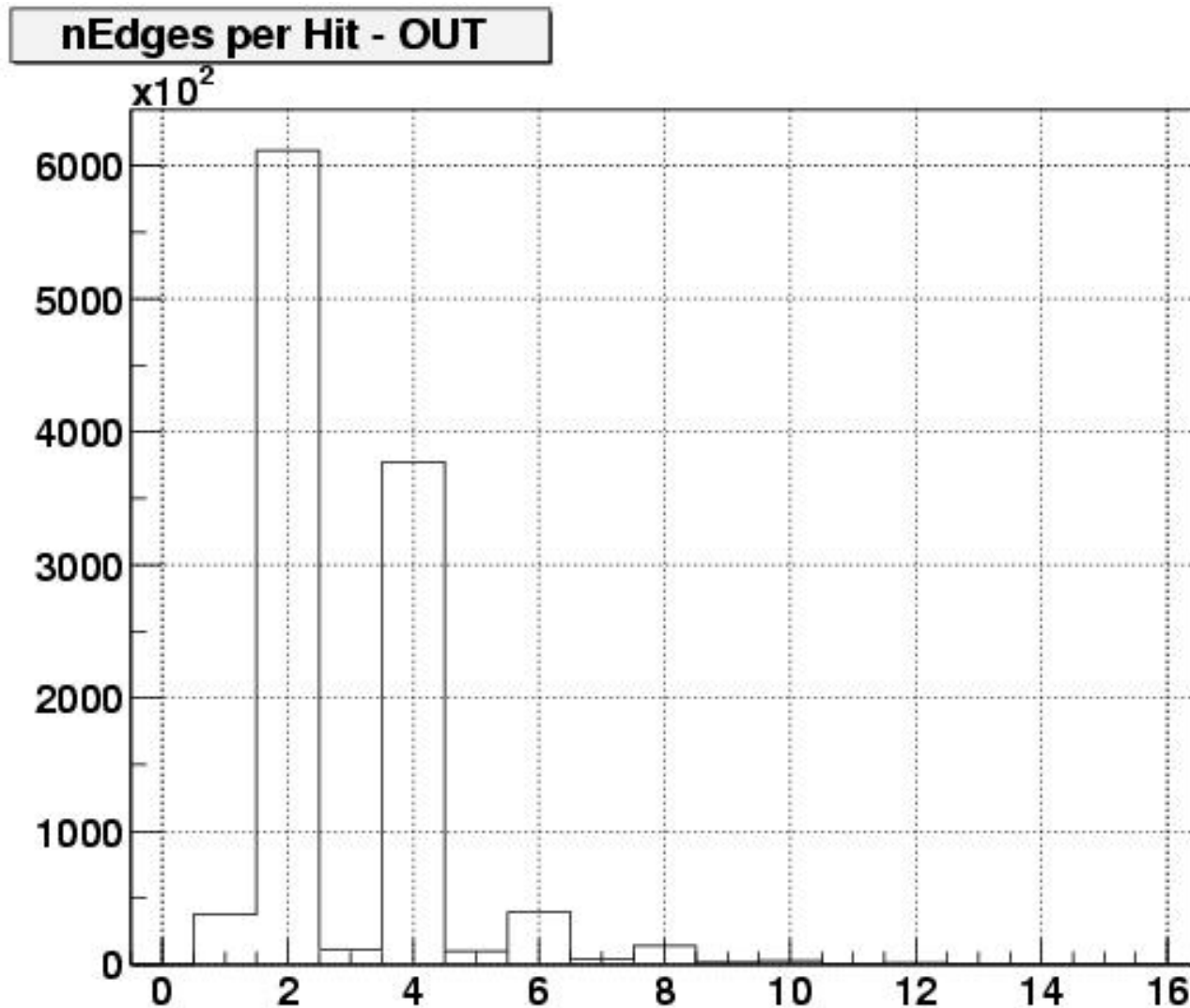
# Outtrigger Construction Status

- Sample events and distributions:



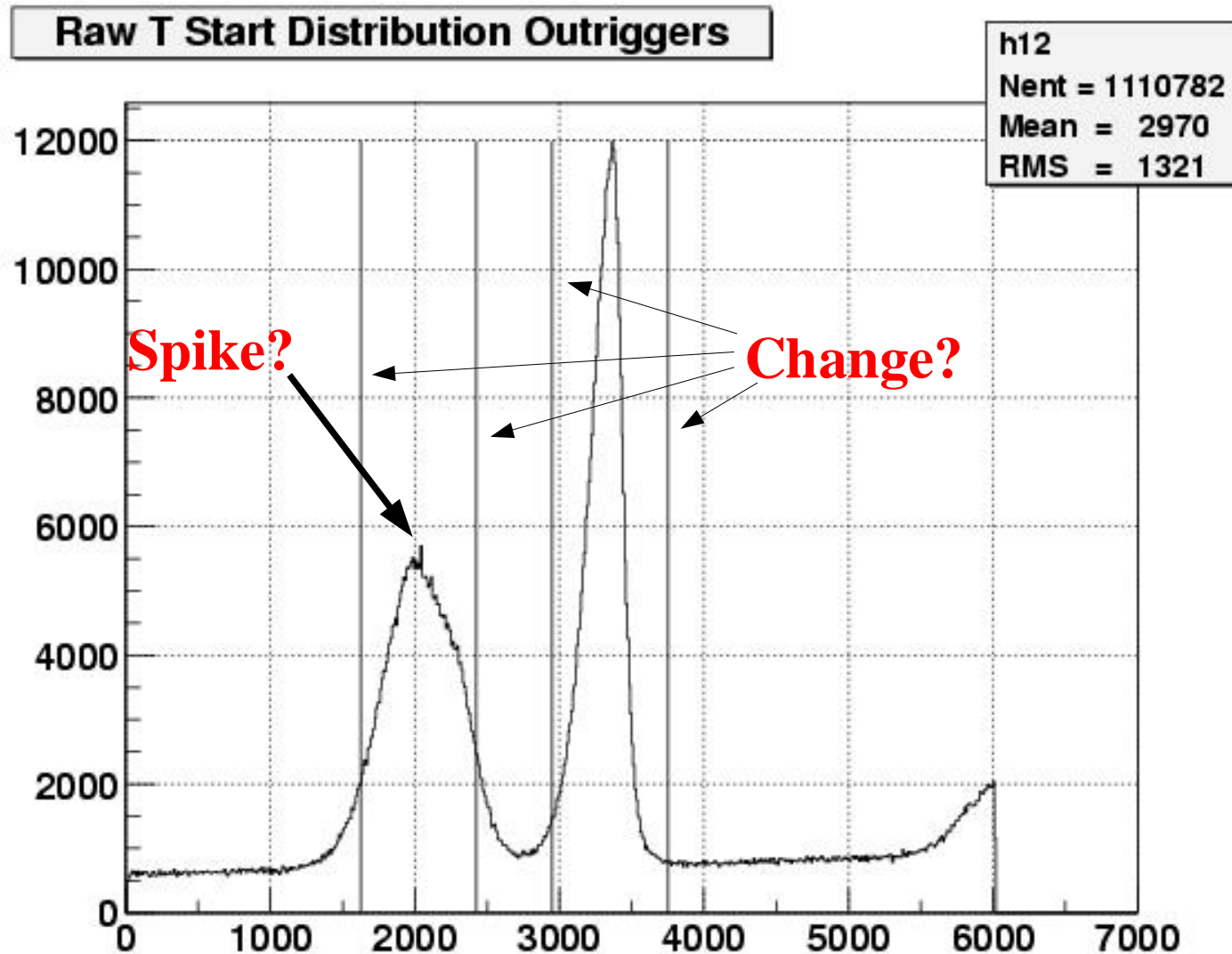
# Outtrigger Construction Status

- Sample events and distributions:



# Outrigger Construction Status

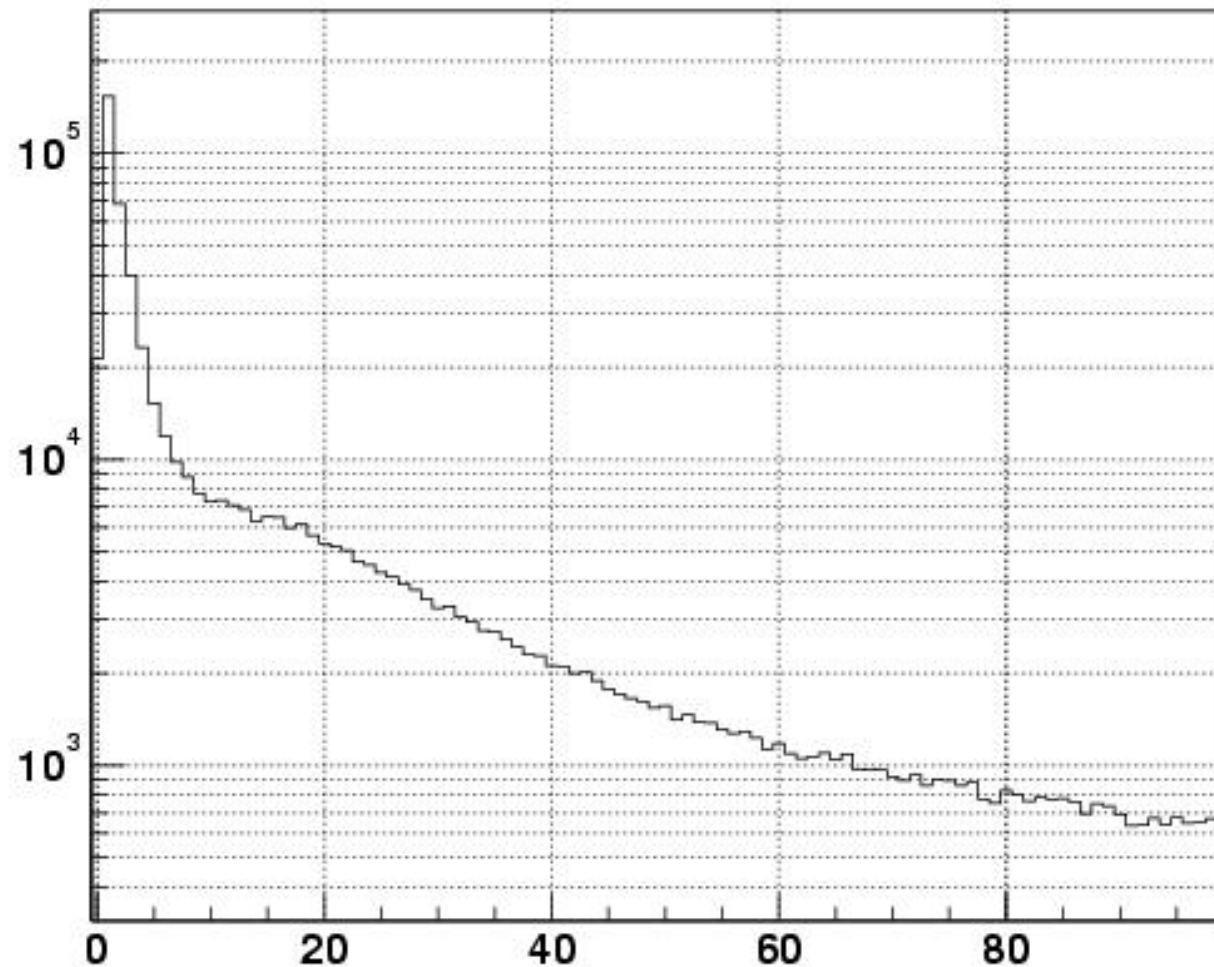
- Sample events and distributions:



# Outtrigger Construction Status

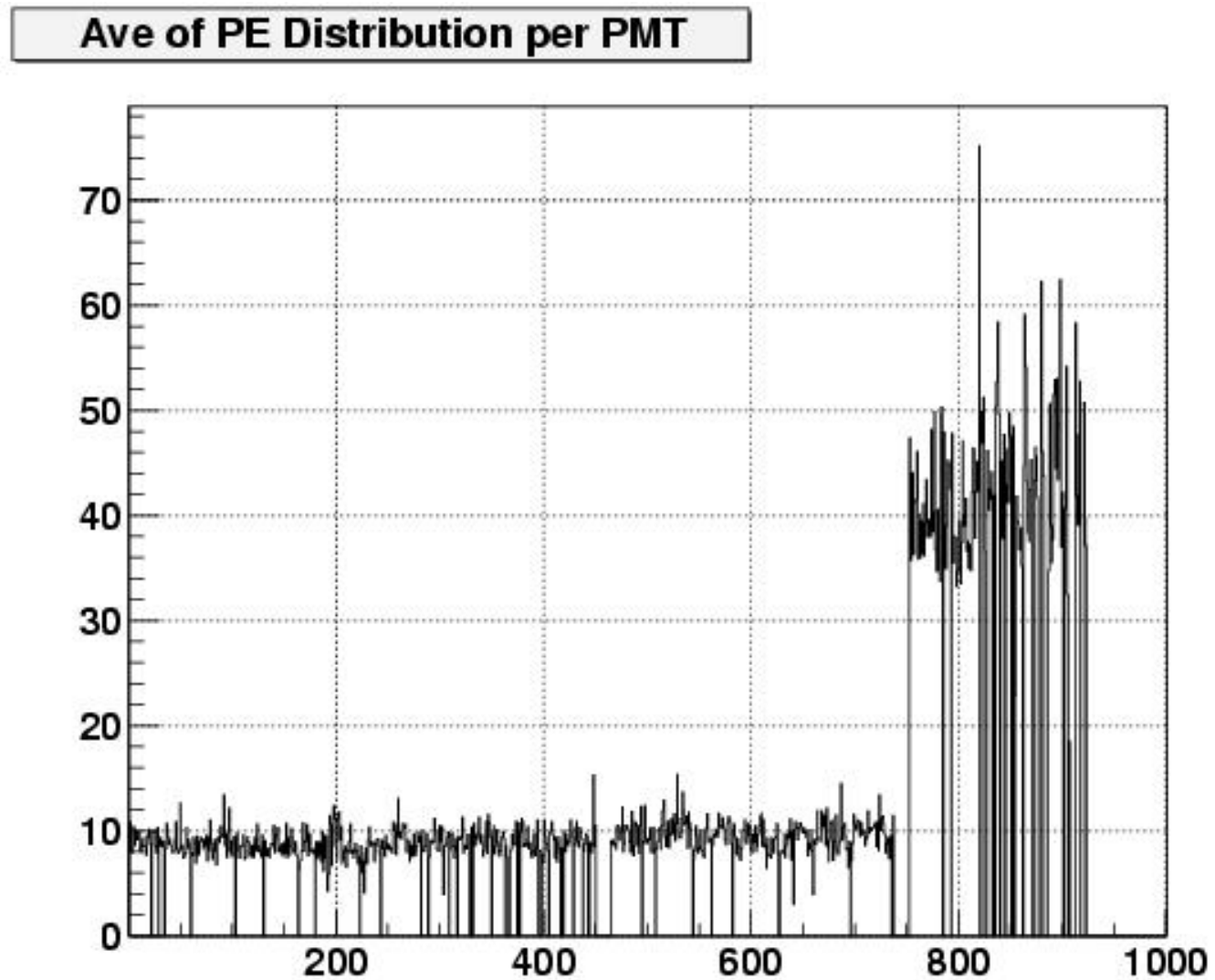
- Sample events and distributions:

PEs - OUT



# Outtrigger Construction Status

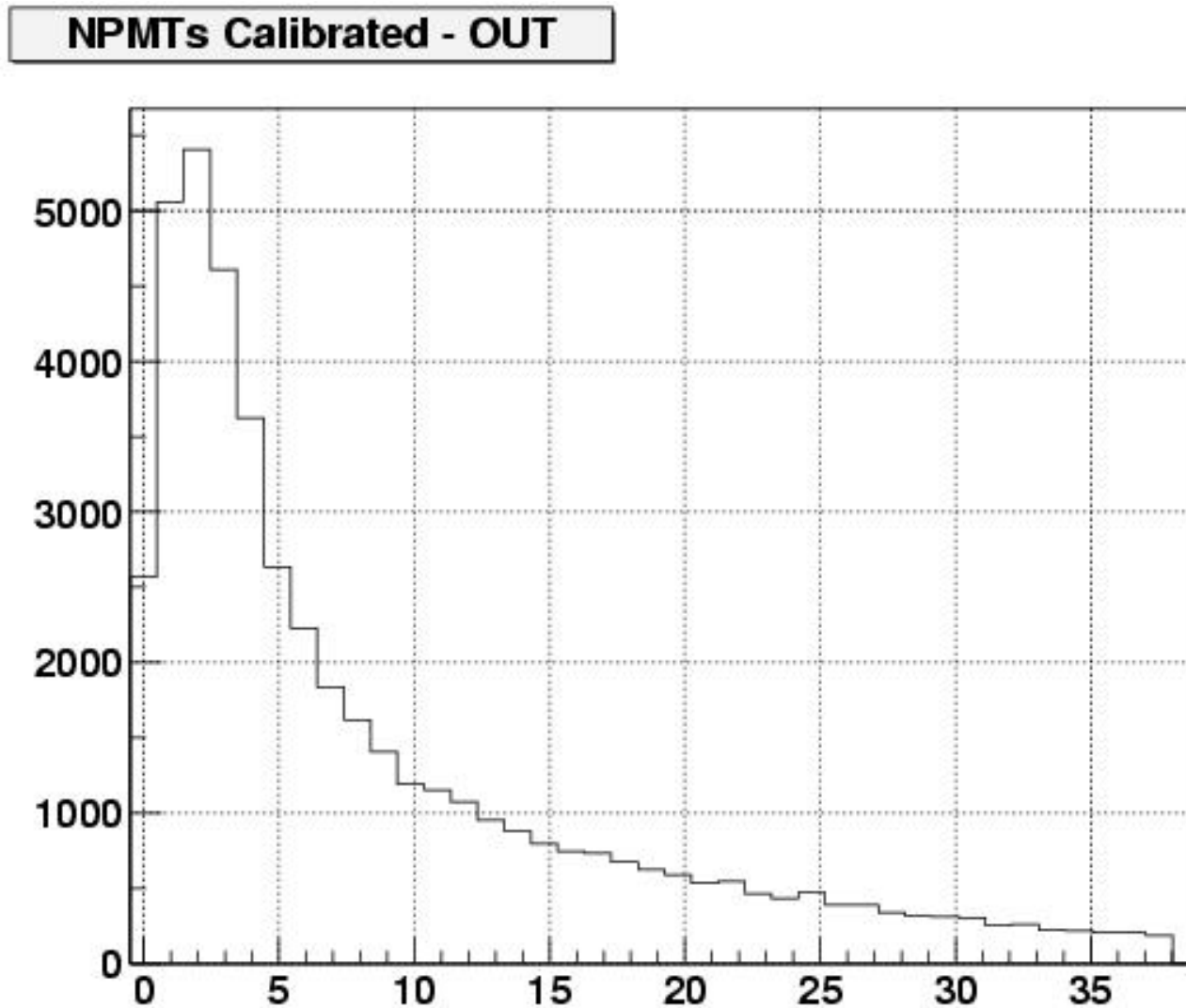
- Sample events and distributions:





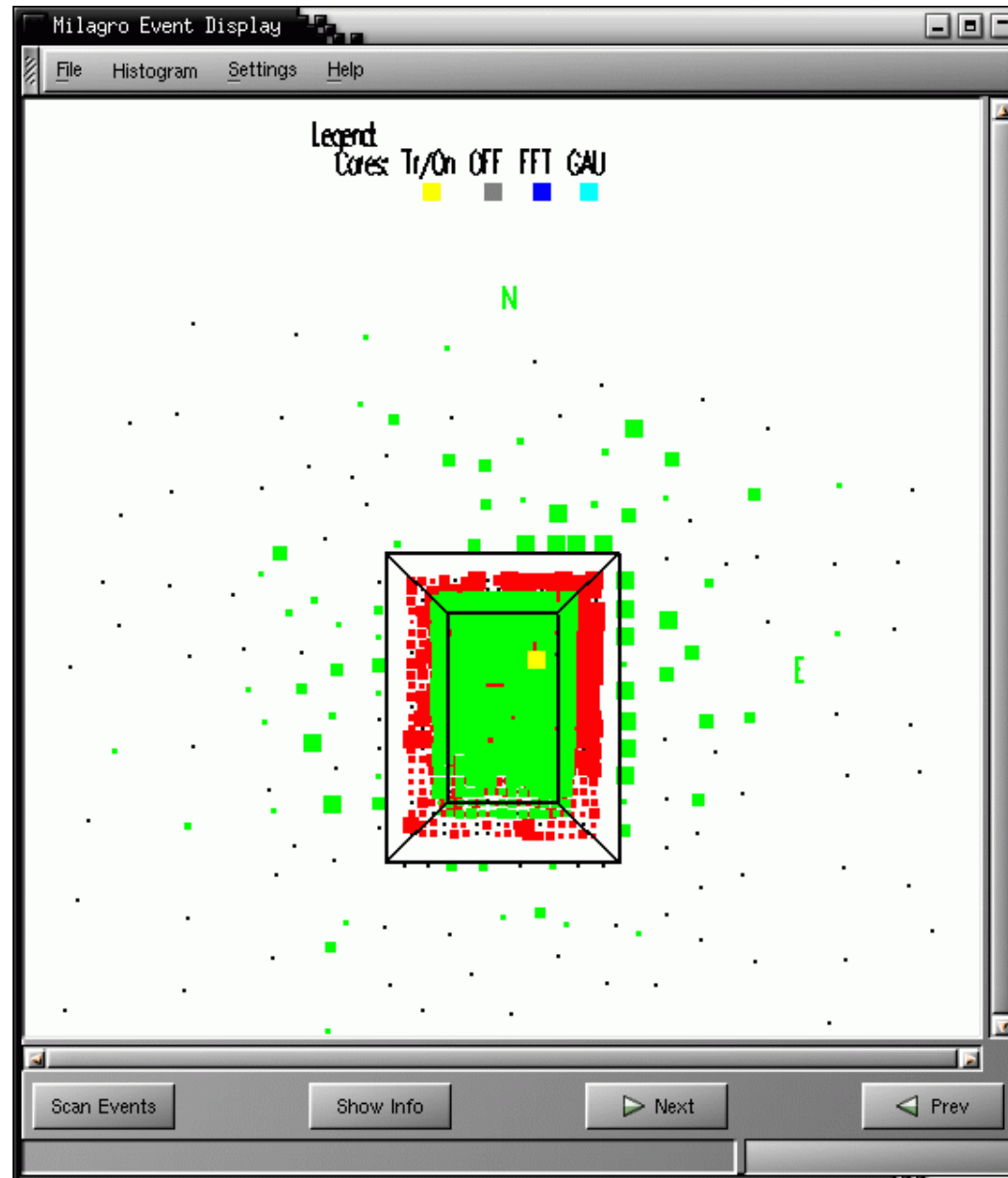
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- Sample events and distributions:



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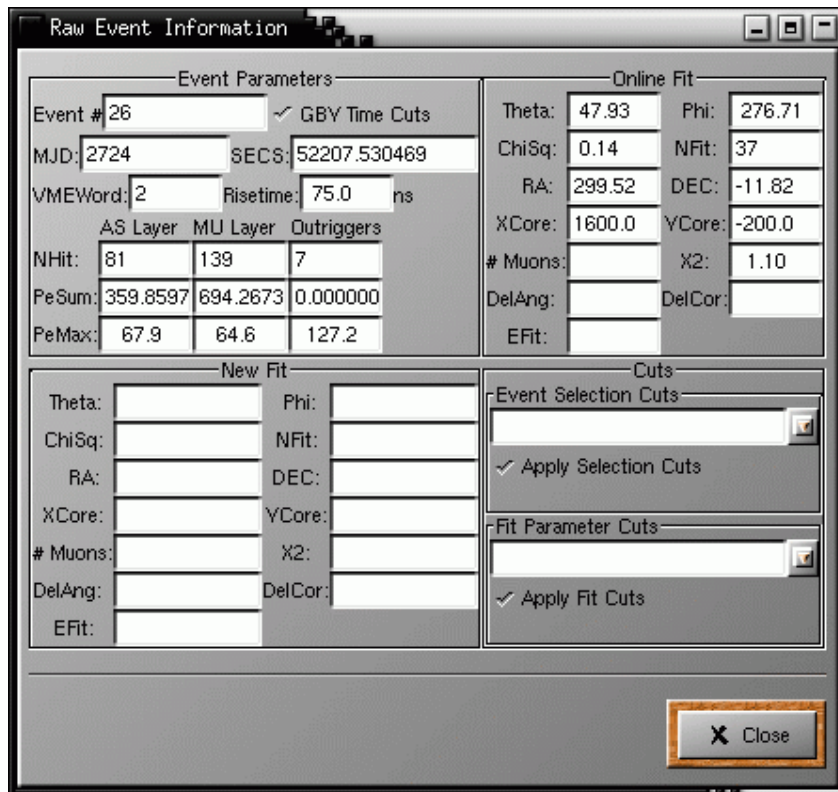
- Sample events and distributions:



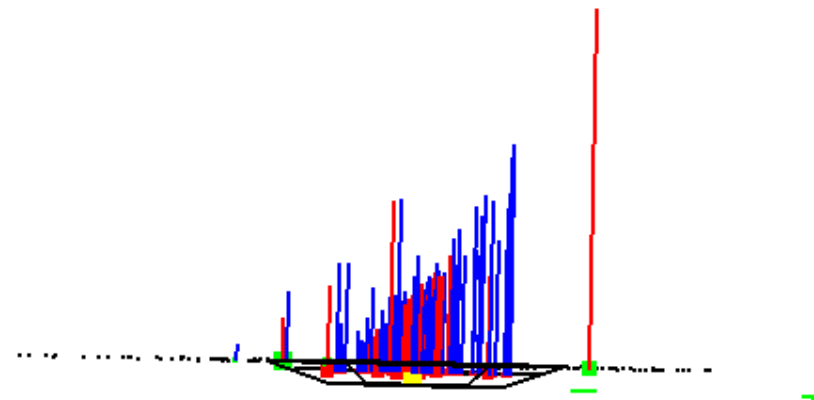
Contained  
Event?

# Outtrigger Construction Status

- Sample events and distributions:

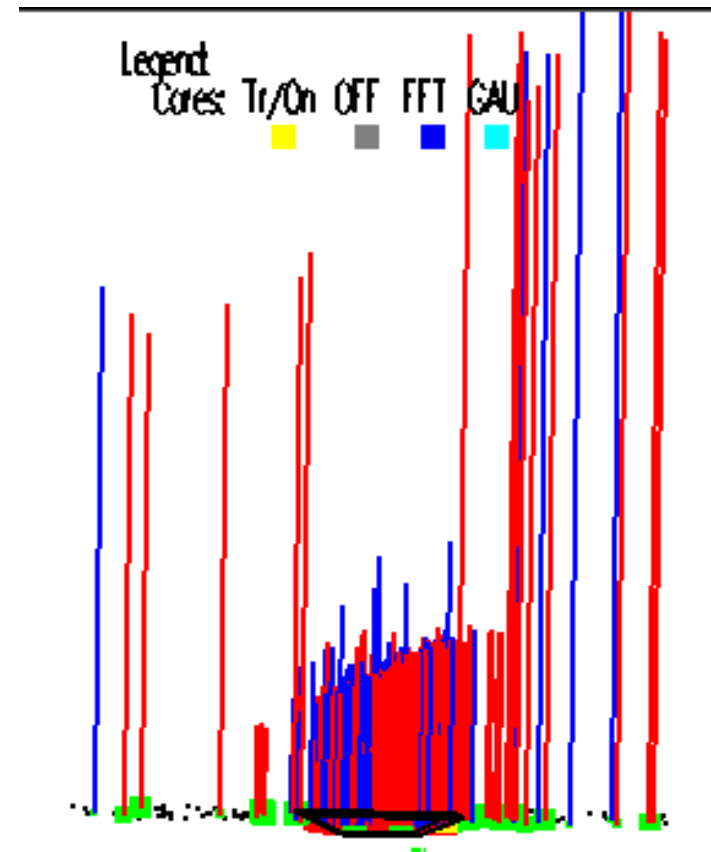
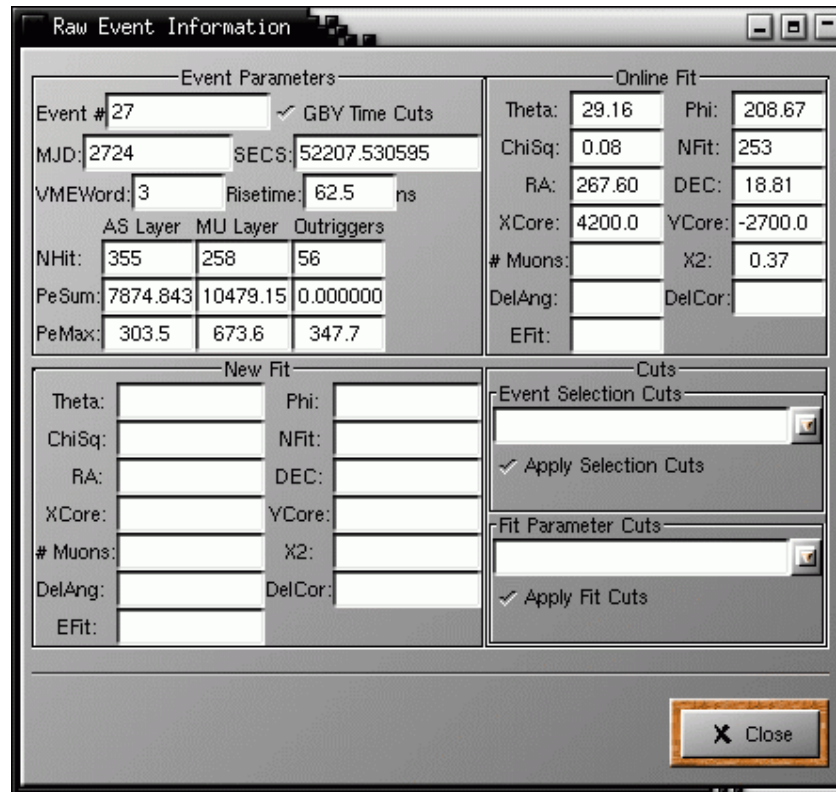


Time (AS + Out)



# Outrigger Construction Status

- Sample events and distributions:



Lever Arm?

# Outtrigger Construction Status

## • Sample events and distributions:

Raw Event Information

Event Parameters			Online Fit				
Event #	3616	<input checked="" type="checkbox"/> GBY Time Cuts	Theta:	22.99	Phi:	117.41	
MJD:	2724	SECS:	52210.049905	ChiSq:	0.16	NFit:	161
VMEWord:	3	Risetime:	62.5 ns	RA:	276.14	DEC:	55.13
AS Layer MU Layer Outriggers			XCore:	4000.0	YCore:	-3000.0	
NHit:	309	222	138	# Muons:		X2:	0.01
PeSum:	406071.9	455236.0	0.000000	DelAng:		DelCor:	
PeMax:	22225.7	14485.2	2580.0	EFit:			

New Fit		Cuts	
Theta:		Phi:	
ChiSq:		NFit:	
RA:		DEC:	
XCore:		YCore:	
# Muons:		X2:	
DelAng:		DelCor:	
EFit:			

Event Selection Cuts:  
100.000000 < NHitOU < 200.000000

Apply Selection Cuts

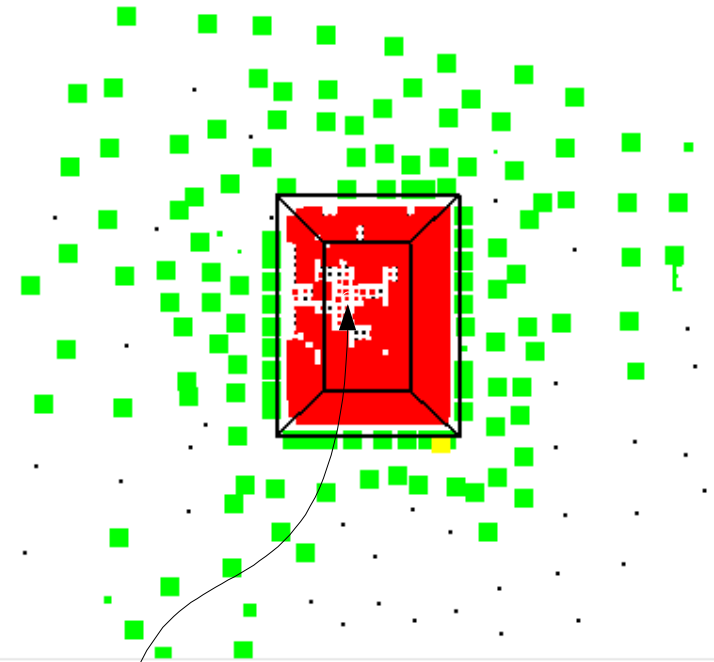
Fit Parameter Cuts:

Apply Fit Cuts

Close

> 1000 PEs

Pulse heights



Selected Hit Information

Grid Info		Raw Info		
Grid #	240	# Edges:	6	Edge Times
X:	-1001.	Low TOT:	63	3178 <input checked="" type="checkbox"/>
Y:	489.50	Hi TOT:	0	

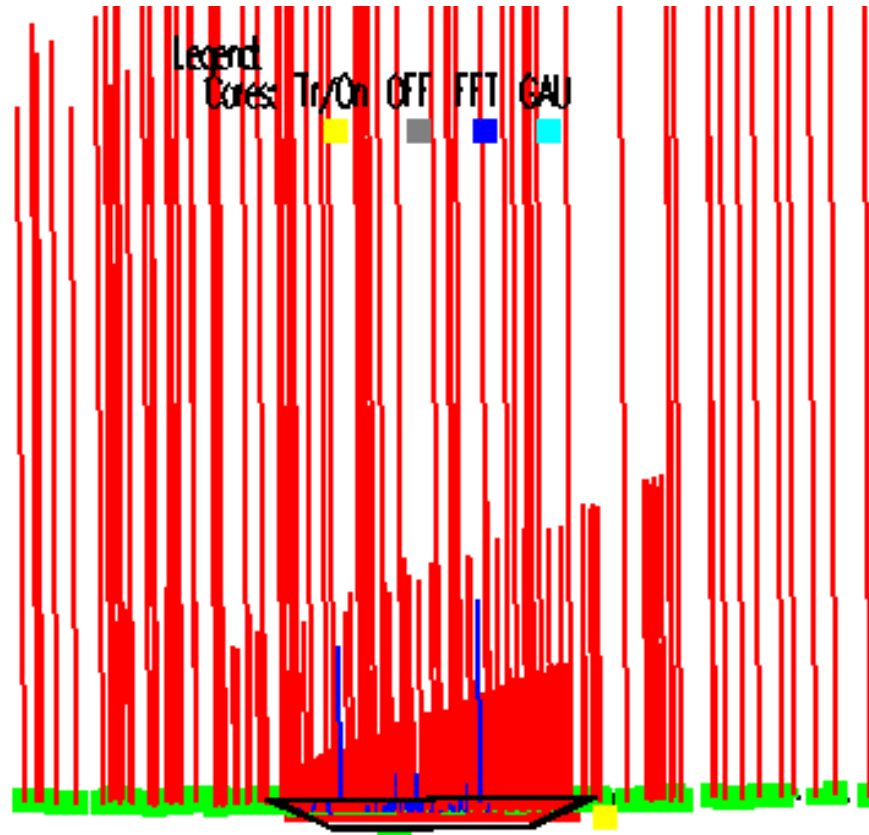
Cal Info		Fit Info	
PEs:	0.306084	Tchi:	-1.992153
Time (ns):	1362.32126	Used in Fit?:	
Which TOT:			

Next Prev Close

# Outtrigger Construction Status

- Sample events and distributions:

Same event  
timing



# Outrigger Construction Status

- **Outstanding problems and issues:**
  - Hardware
    - Stability of optical fibers?
    - To cover or not to cover? (**Ice? Heating? aging of covers?**)
    - Stability of water quality?
    - High internal air pressure? (**produce light leaks?**)
  - Calibrations
    - How to get them quickly?
      - Pulse heights? (**laser? adc?**)
      - Timing (**Peds?, slewing?**)
    - How often must we calibration? (**Stability?**)
  - **Software?**

# Outrigger Construction Status

# Solutions?