

Test of the MB2 Ciemat Chamber at ISR

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- Check chamber status and performance after moving from Madrid.
- High Voltage
 - Setup with three HV distribution boxes operating.
 - Conditions as in Madrid: $V_{\text{anodes}} = 3600 \text{ V}$, $V_{\text{strips}} = 1800 \text{ V}$, $V_{\text{cathodes}} = -1200 \text{ V}$.
 - Current resolution (100 nA) too coarse to identify problems inside the chamber comparing to Madrid measurements ($< 10 \text{ nA}$). Just useful to see sparking channels.
 - All currents observed (a few) related to the supply and/or distribution box and cables, i.e. non chamber-related.
- Hit analysis
 - $V_{\text{thres.}} = 20 \text{ mV}$.
 - Occupancies: No new dead channel since Madrid (9/703).
 - Timeboxes: No surprises.
 - Noise occupancy in cosmics: 0.2% per channel.
⇒ Noise at beam test should be negligible.

- Stub analysis

- Number of hits per event peaks at 4.
- 97.5% of the events have a track.
- Meantimes are reasonable (more study needed).
- Drift velocity: 55 – 56 $\mu\text{m}/\text{ns}$, depending of SL.
- Resolution: reasonable (no correction applied).

- Gas tightness

- Flux ~ 30 l/h, $\Delta p = 10$ mbar.
- Overpressure tests:

SL	τ (min)	O_2 level (ppm)
ϕ_1	109	50
ϕ_2	35	90
θ	42	200

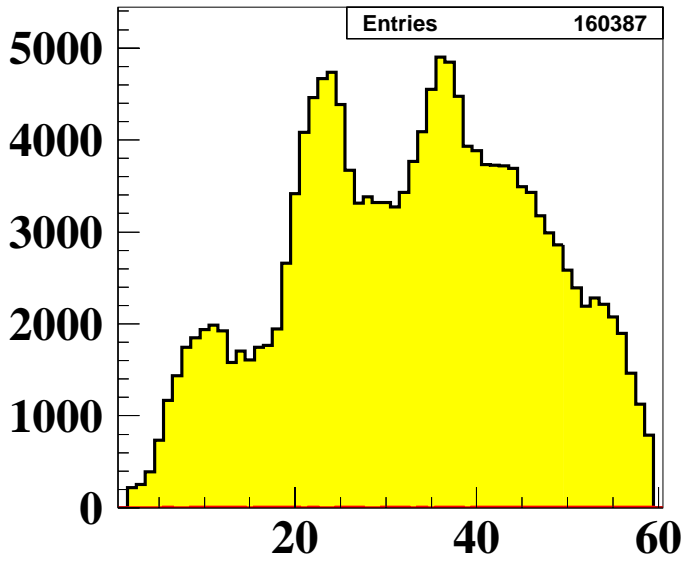
- All chambers below 500 ppm level.

- Conclusions:

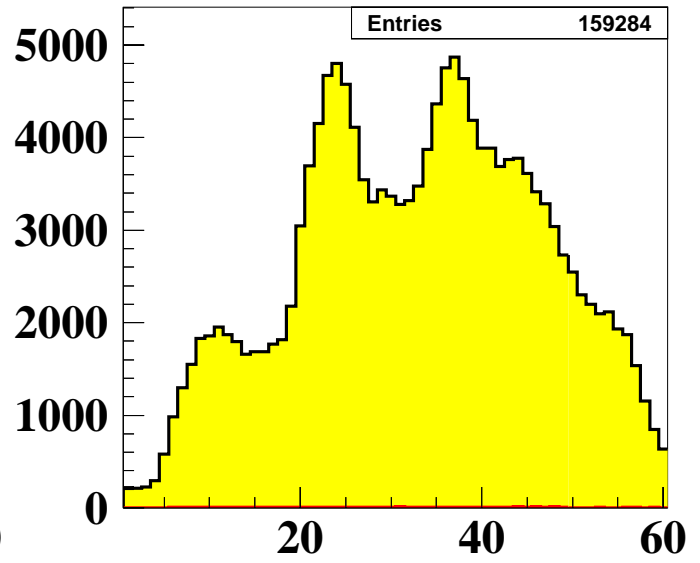
No big problem detected. Conditions (within resolution) similar to Madrid.

- Ready for beam test.

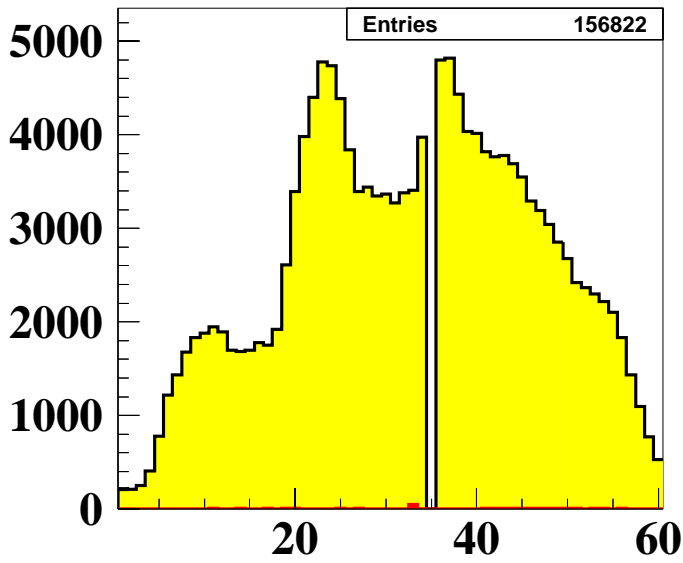
Cosmic Run 371 - Phi SL2



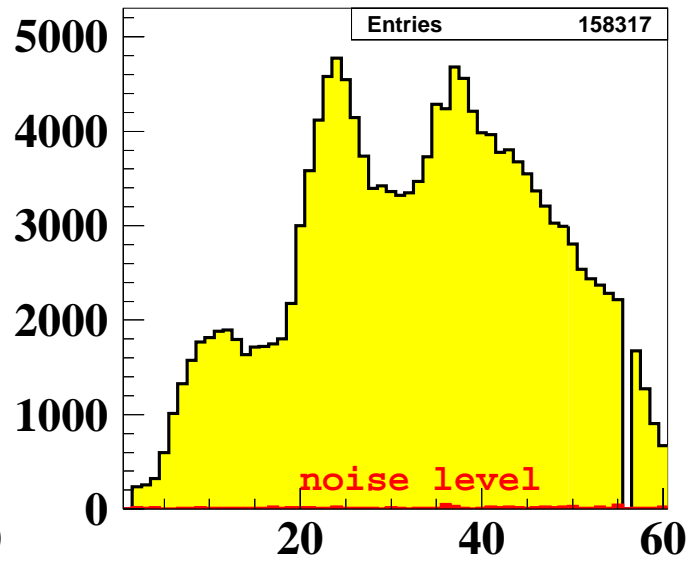
Cell occupancy layer 1



Cell occupancy layer 2

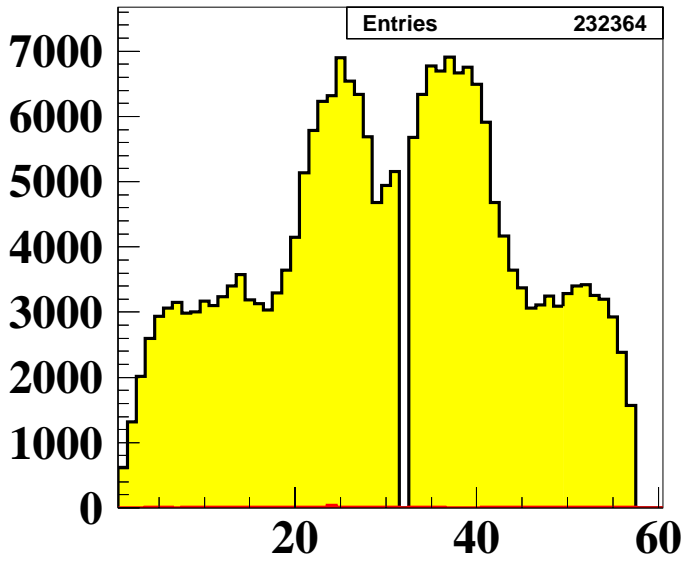


Cell occupancy layer 3

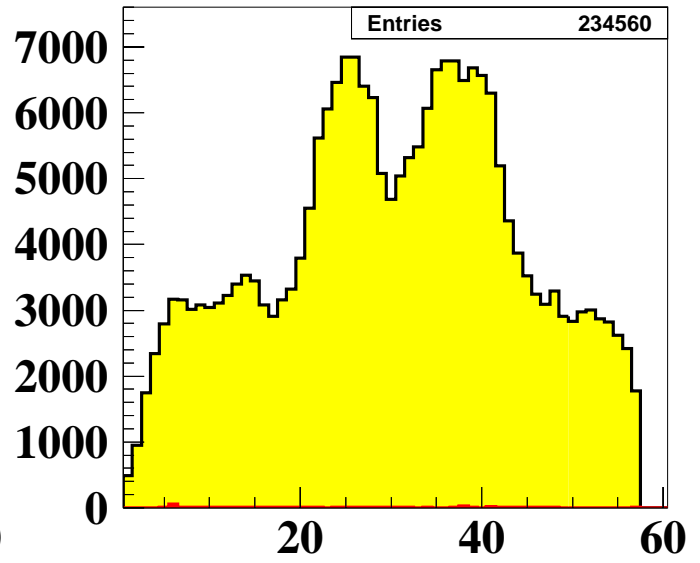


Cell occupancy layer 4

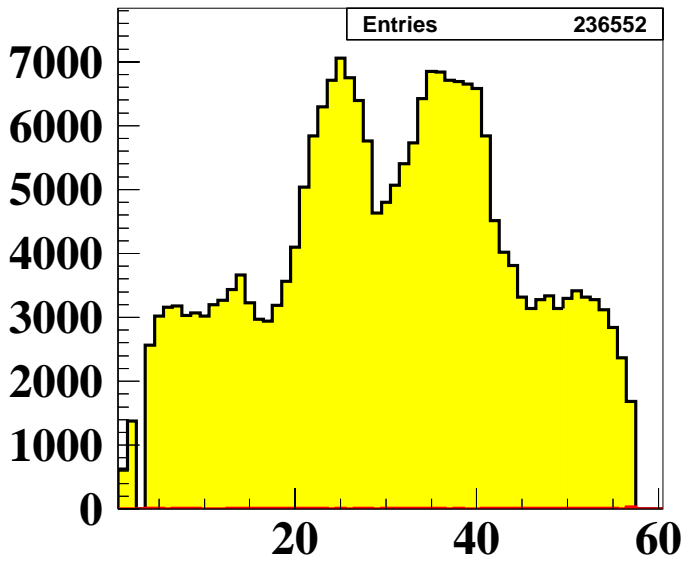
Cosmic Run 379 - Theta SL



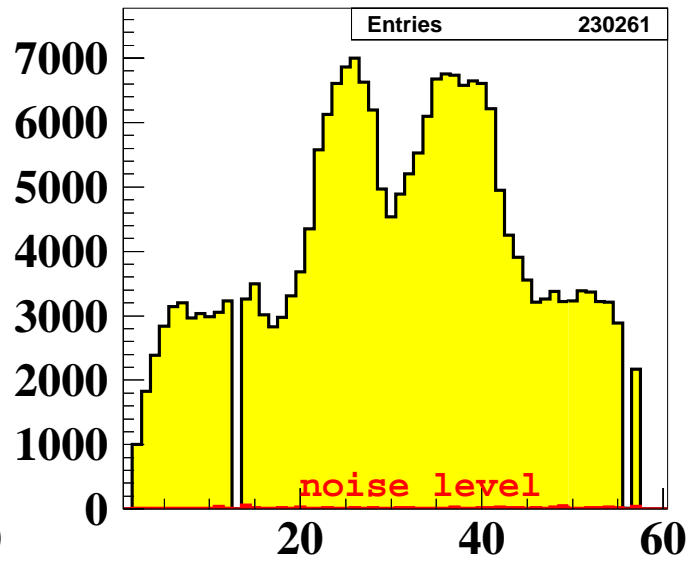
Cell occupancy layer 1



Cell occupancy layer 2

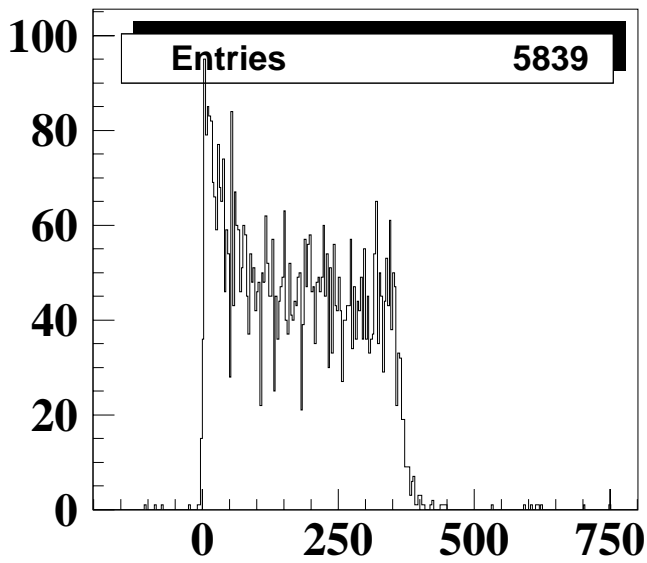


Cell occupancy layer 3

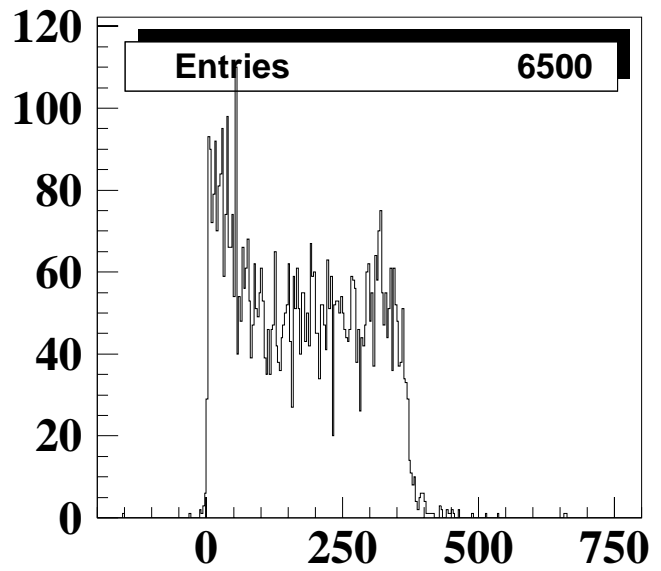


Cell occupancy layer 4

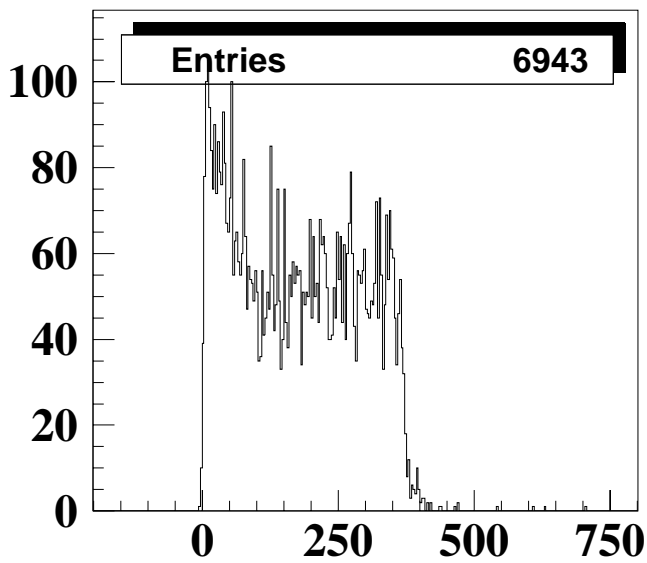
DATA ('Theta SL') Run 379



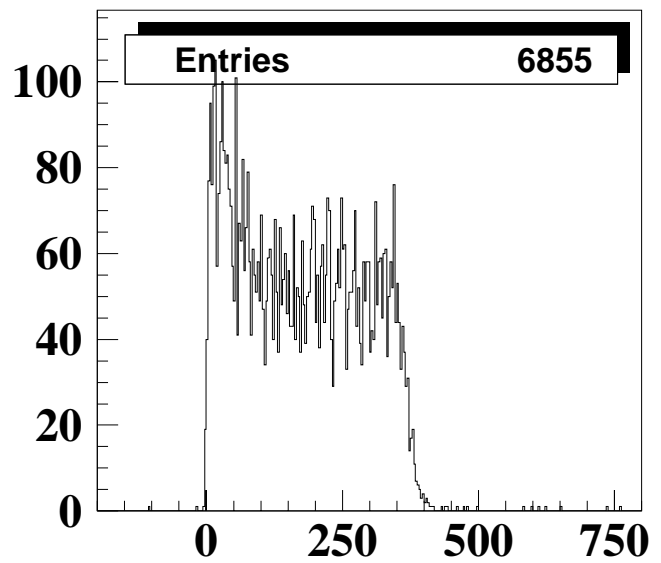
Timebox cell 33 Layer1



Timebox cell 34 Layer1

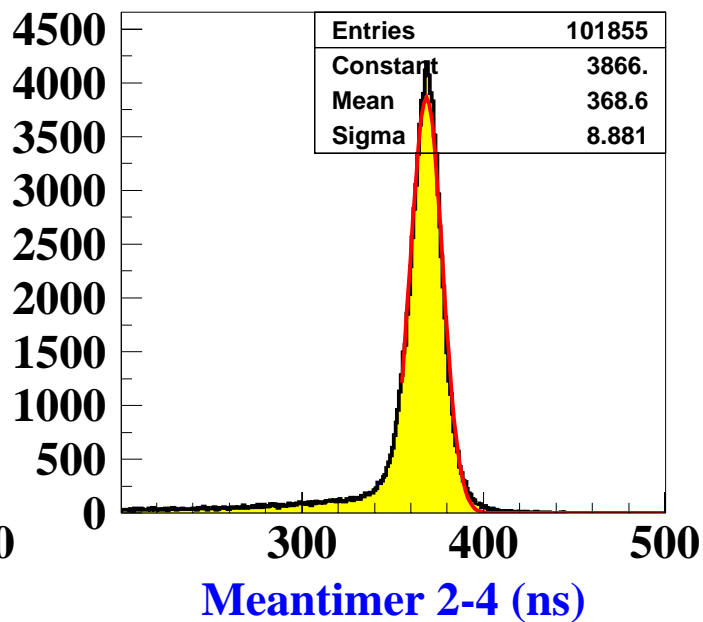
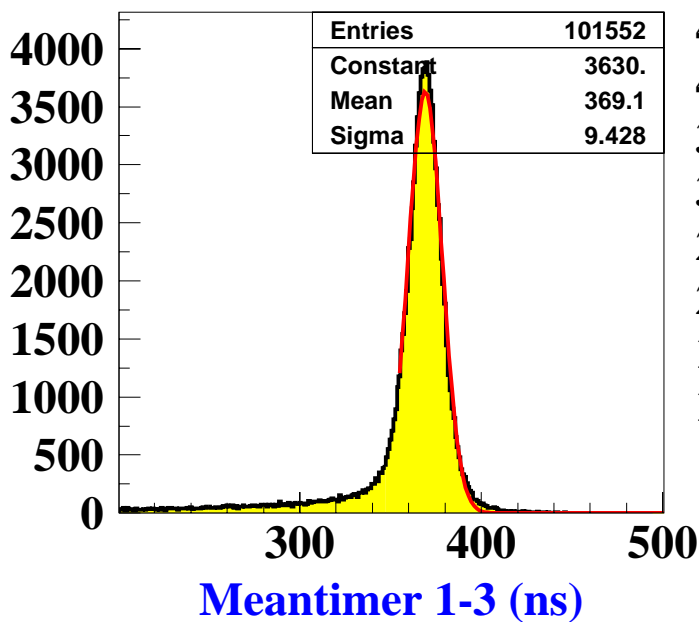
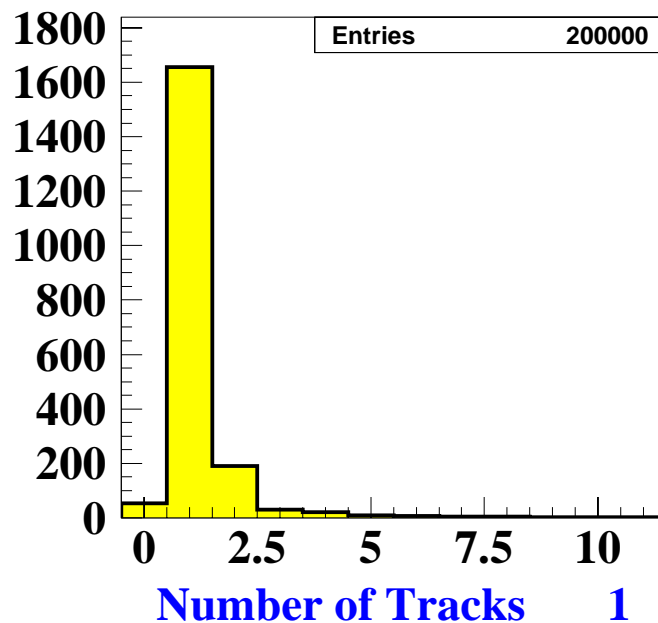
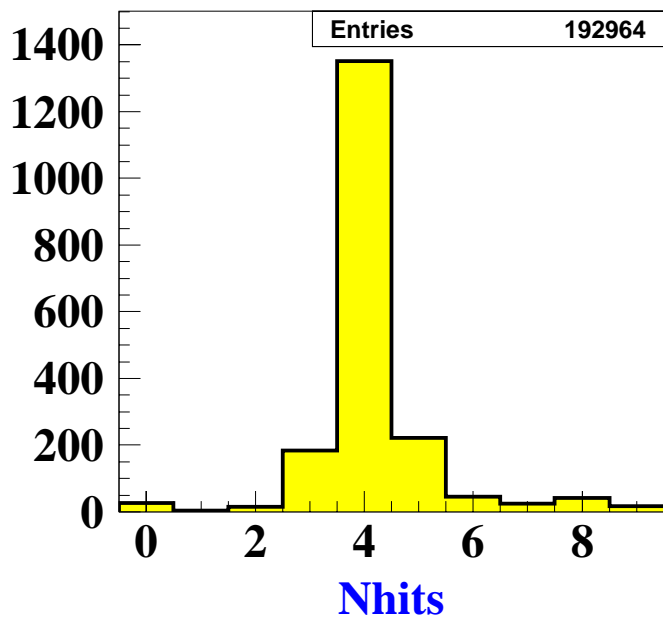


Timebox cell 35 Layer1



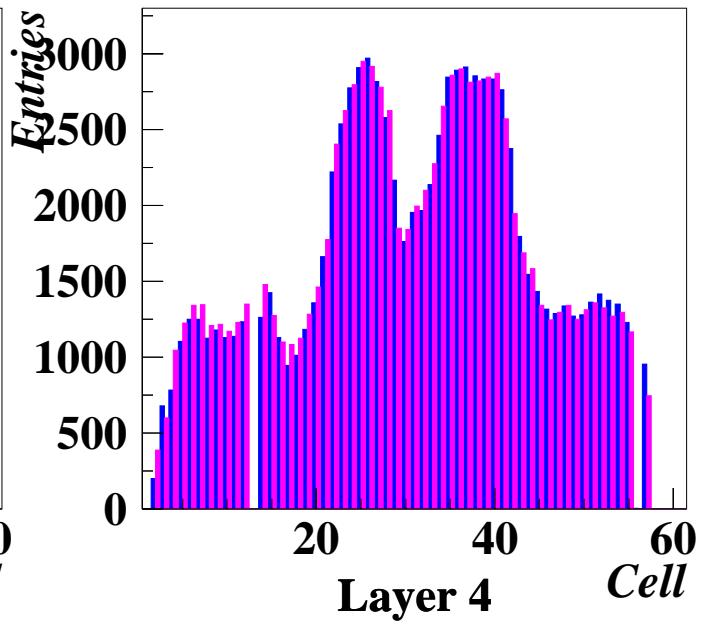
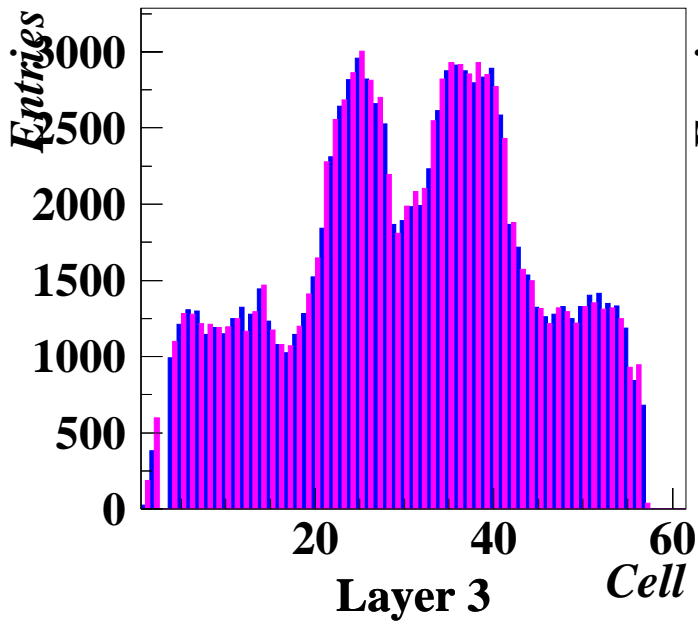
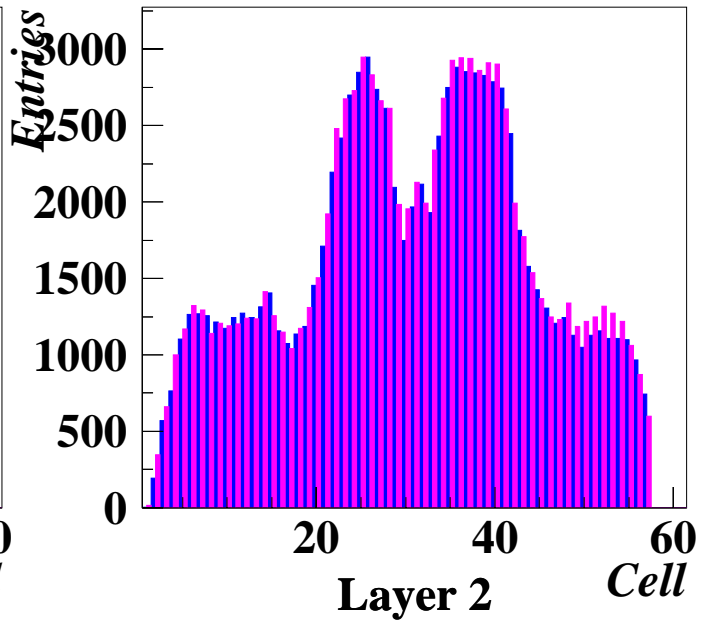
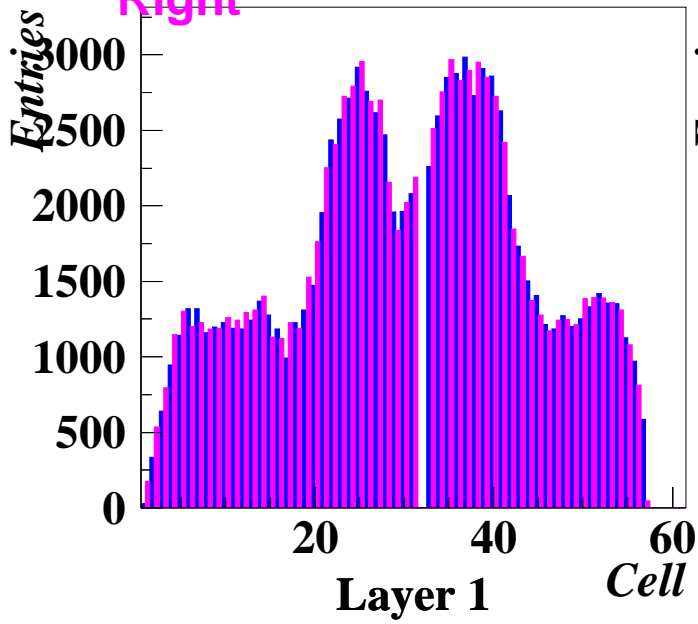
Timebox cell 36 Layer1

$\times 10^2$ **Cosmic Run 379 - Theta SL** $\times 10^2$

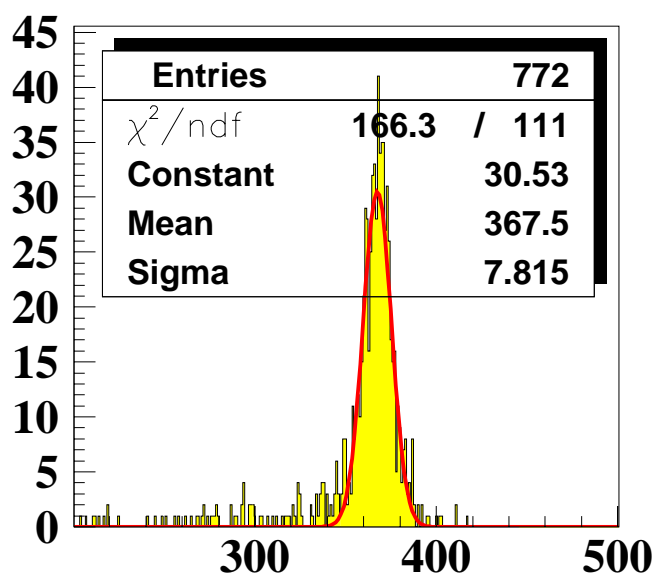


FOUND HITS -- ('Theta SL') Run 379

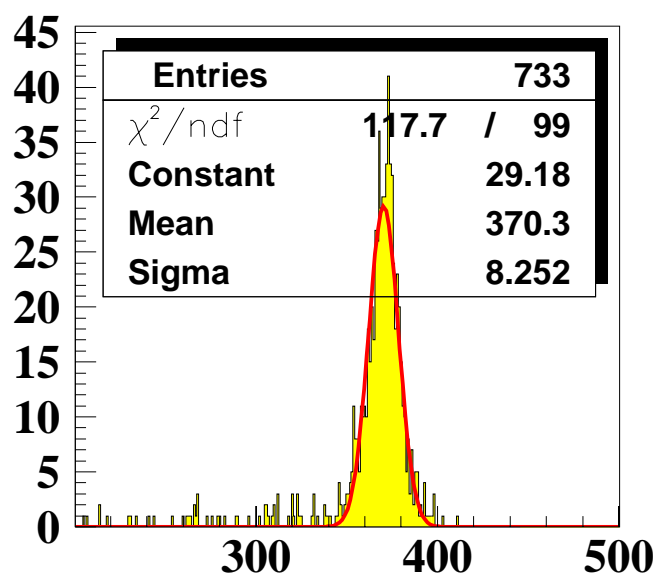
Left
Right



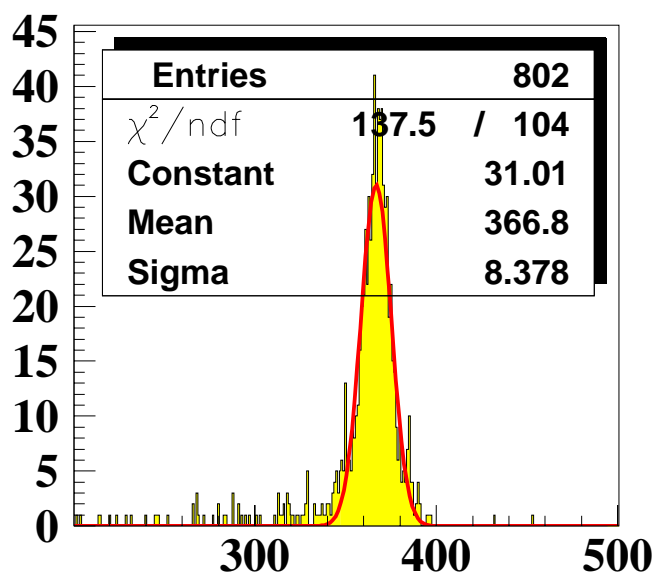
Meantimers ('Theta SL') Run 379



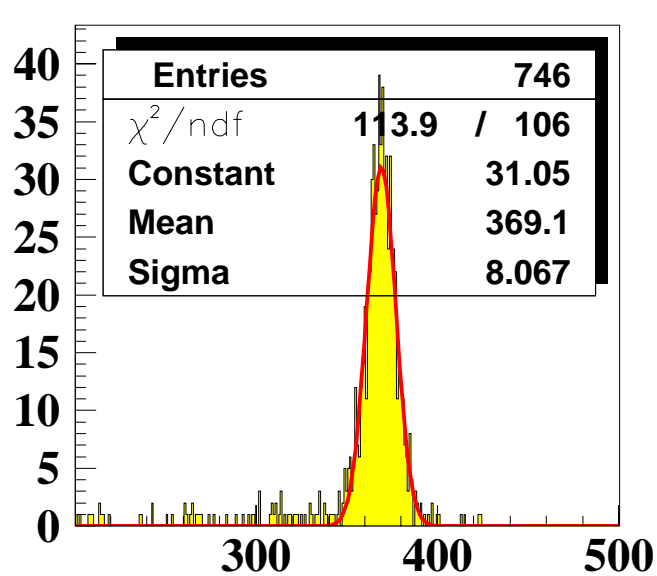
MT1 (L) cell 7



MT1 (R) cell 7



MT2 (L) cell 7



MT2 (R) cell 7

Overpressure Tests

