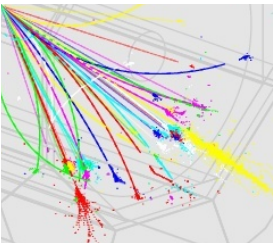# Testbeam Data First Look

RAL 18.01.2008

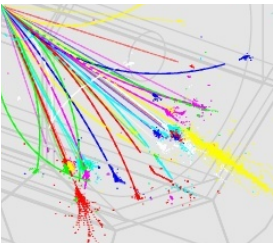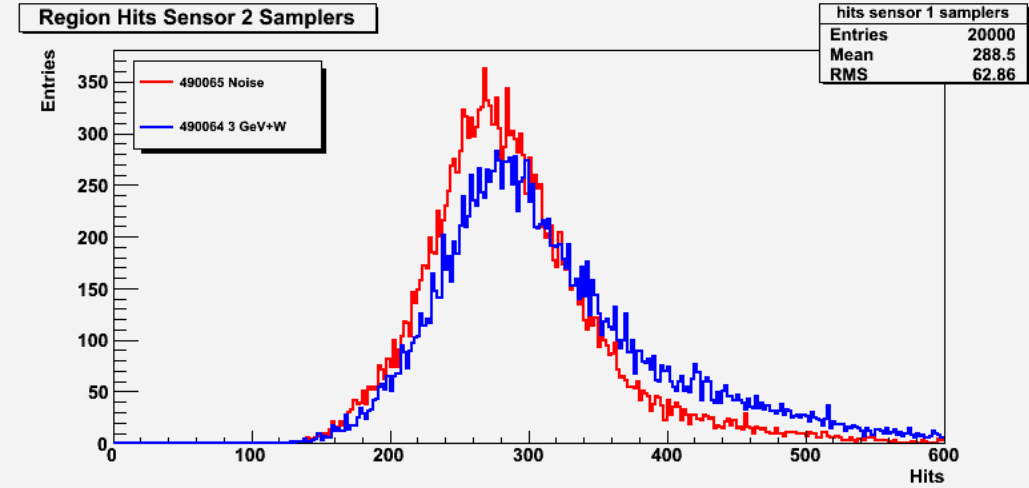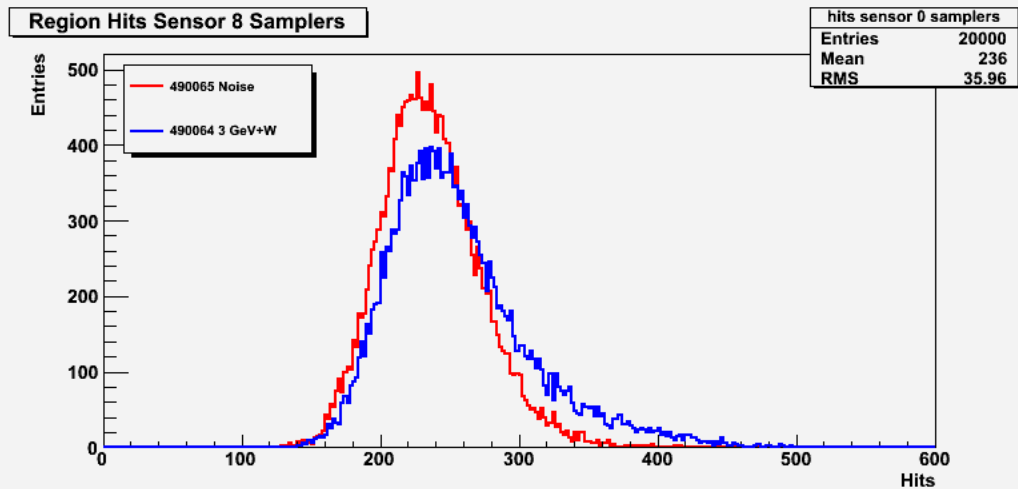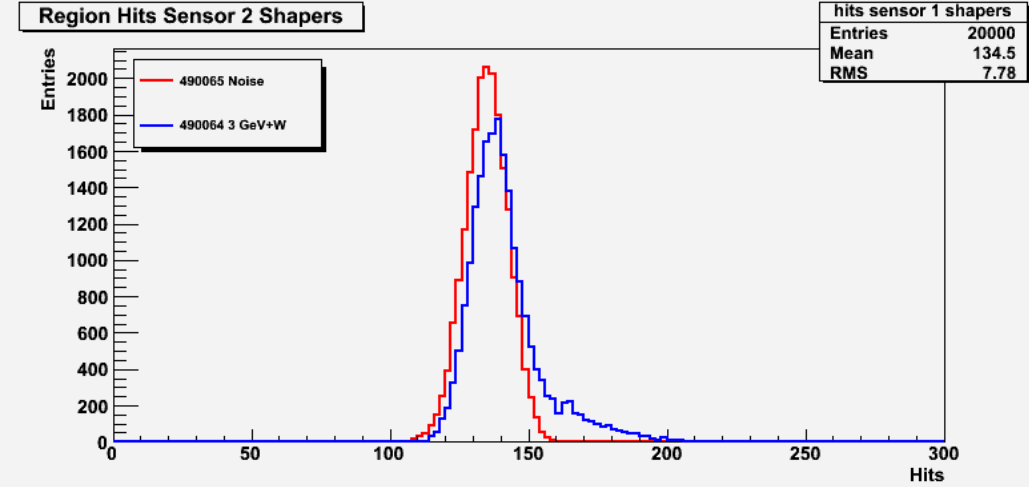**M. Stanitzki**

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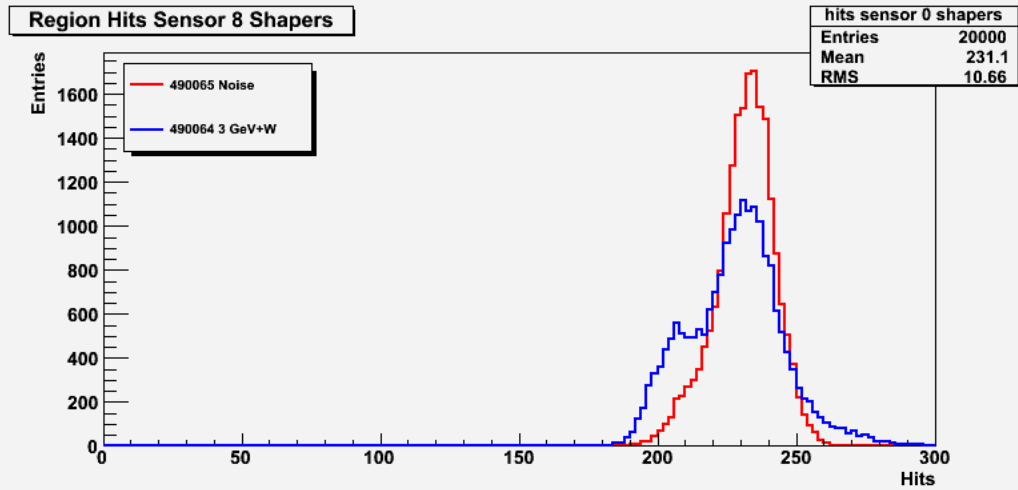# Some quick studies

- Focusing on runs with tungsten and PMT's

- Looking a hits

- PMT performance

- Showers
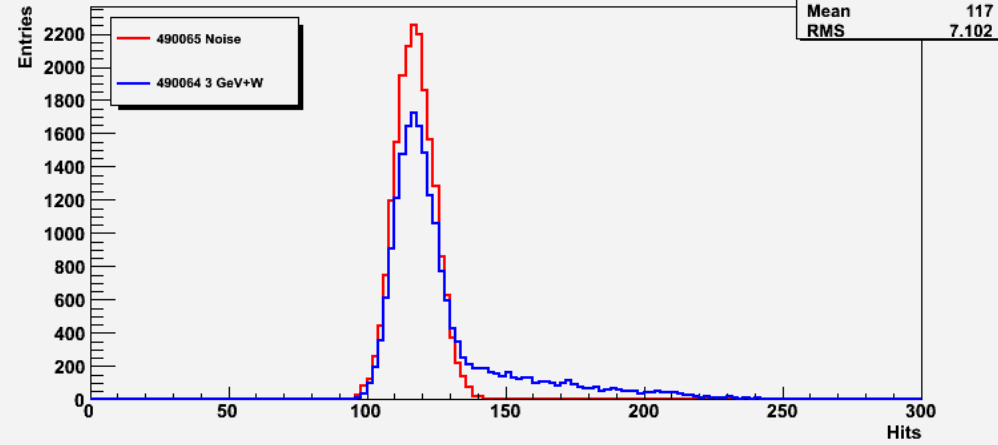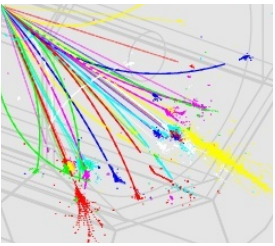
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Hits ...

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more ...

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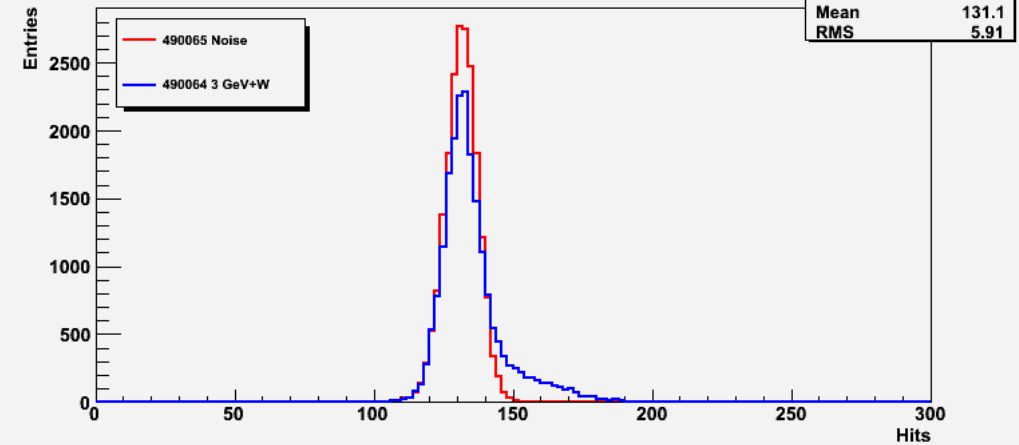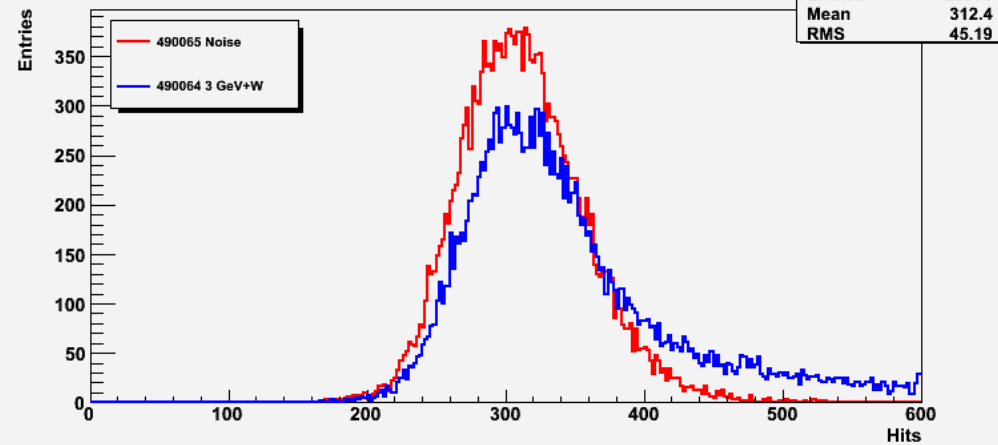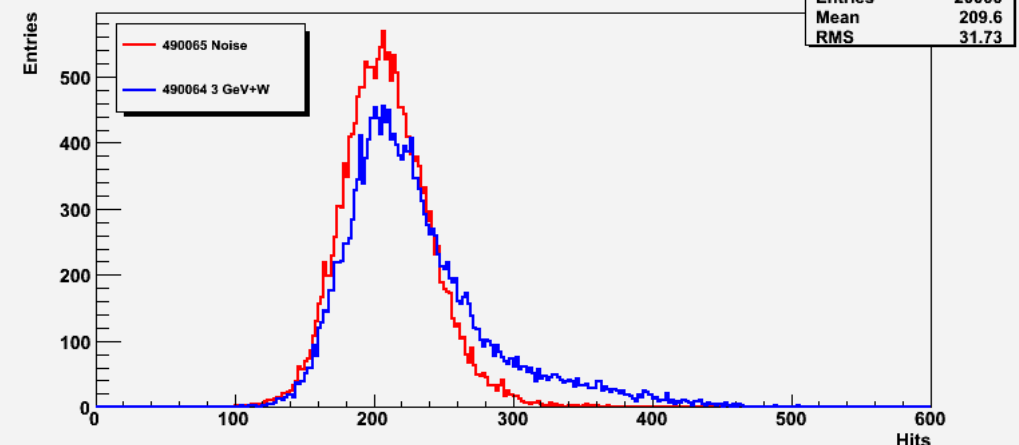
Some Comments
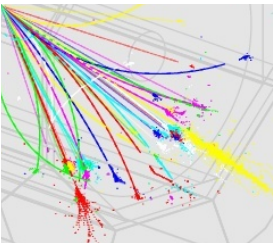
- Clearly can till the difference between Beam/no beam

- Plots integrate over entire bunchtrain

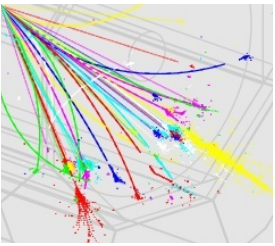- Samplers are much noisier
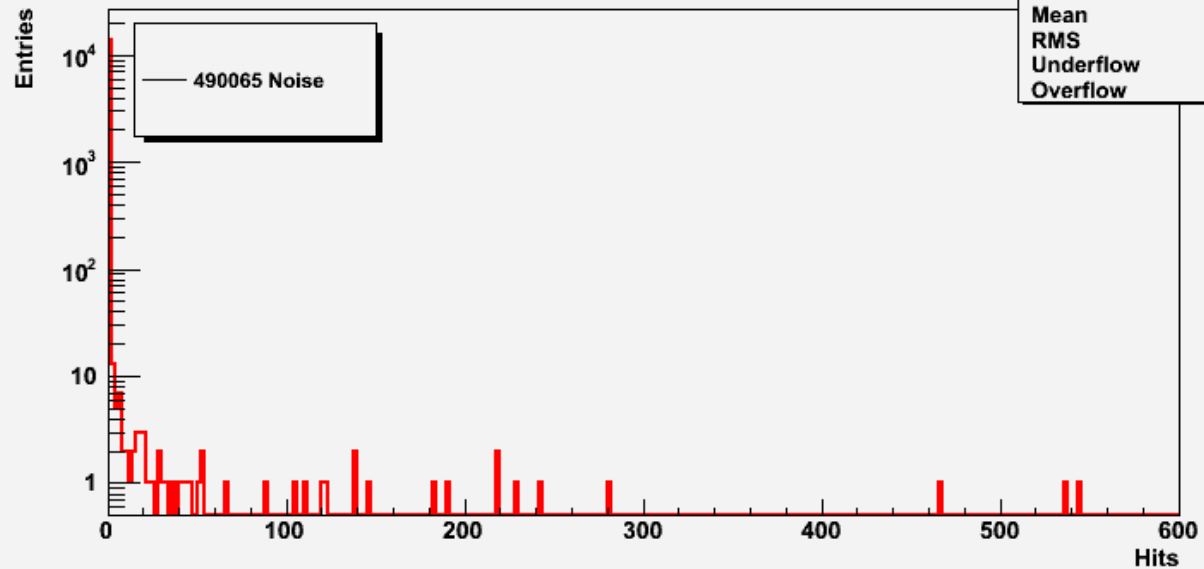
- Noise is Gaussian …
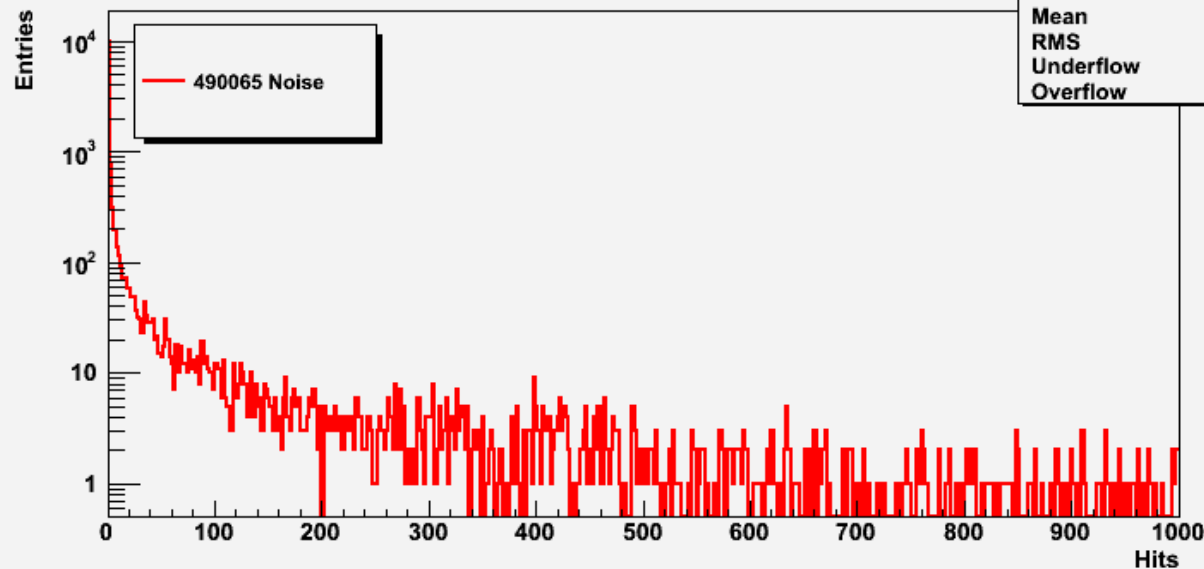 - Wouldn't we expect that …

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Look at hot pixels

**using
Jamie's Hitmap**

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more

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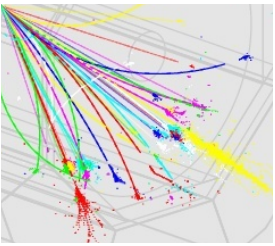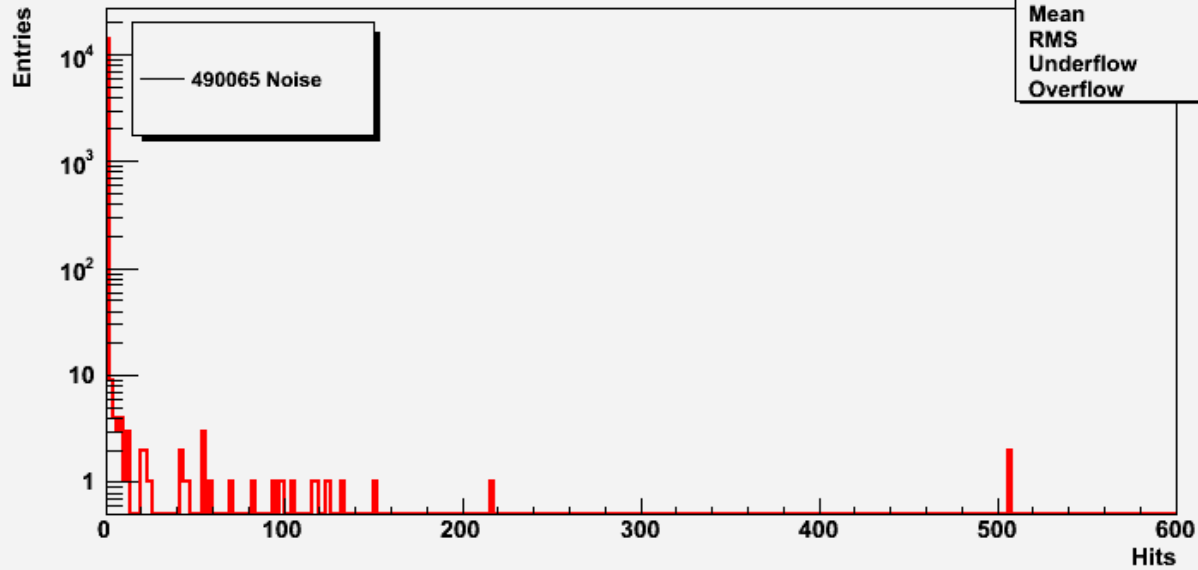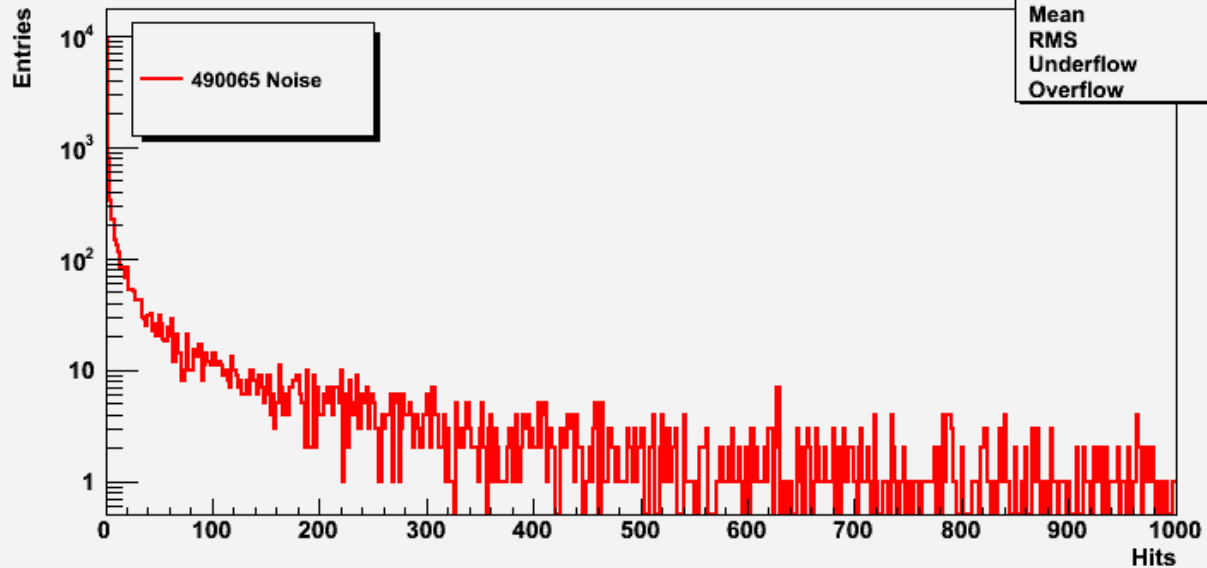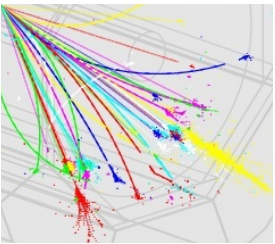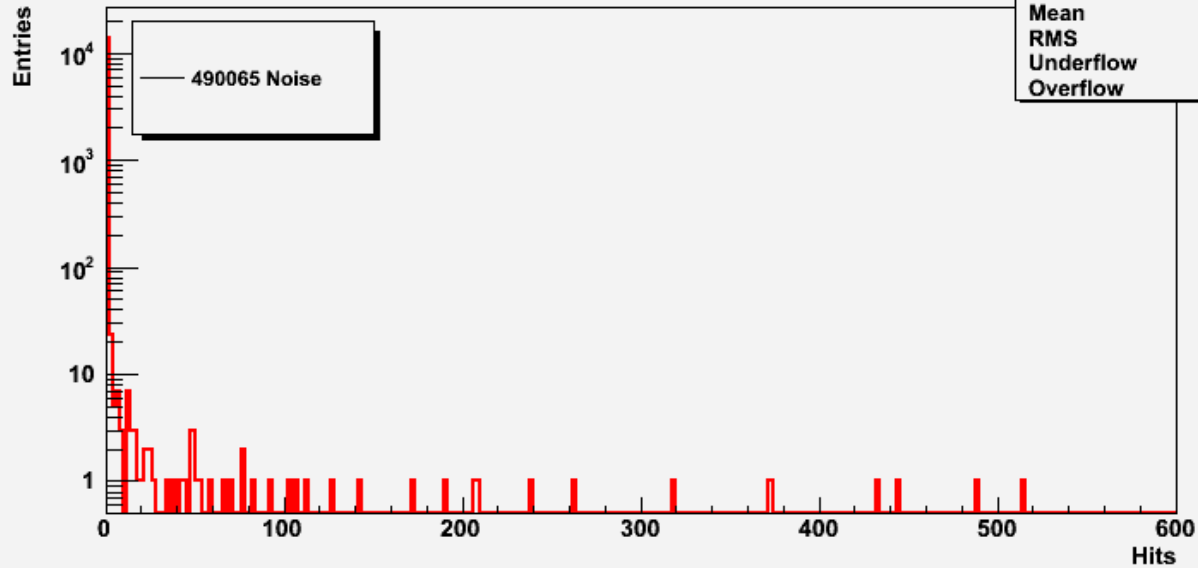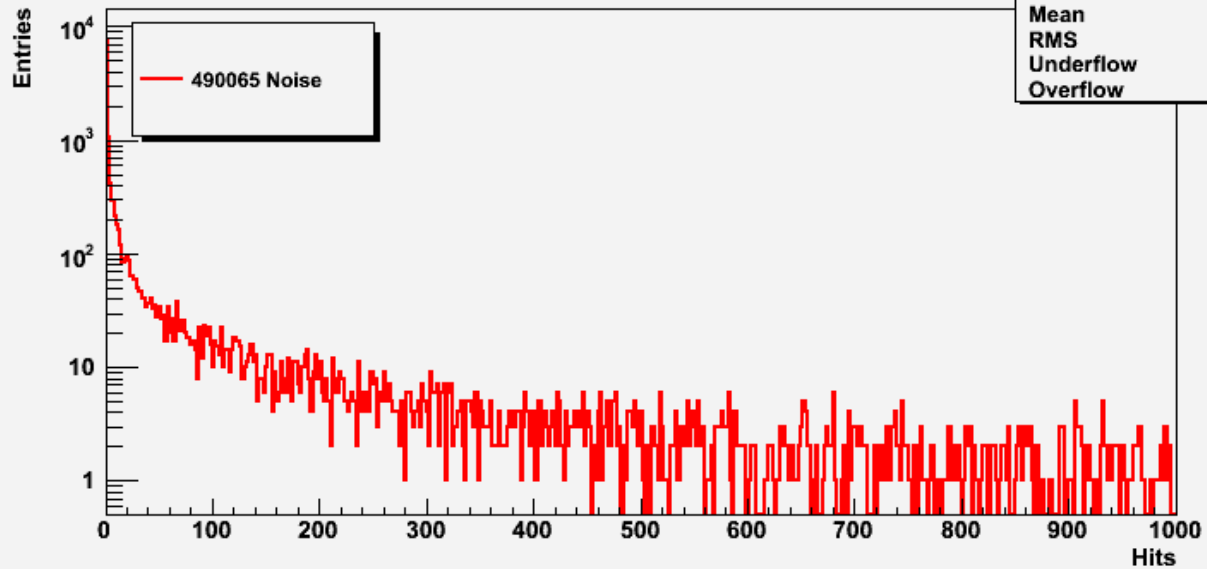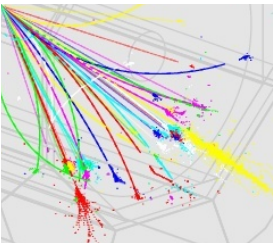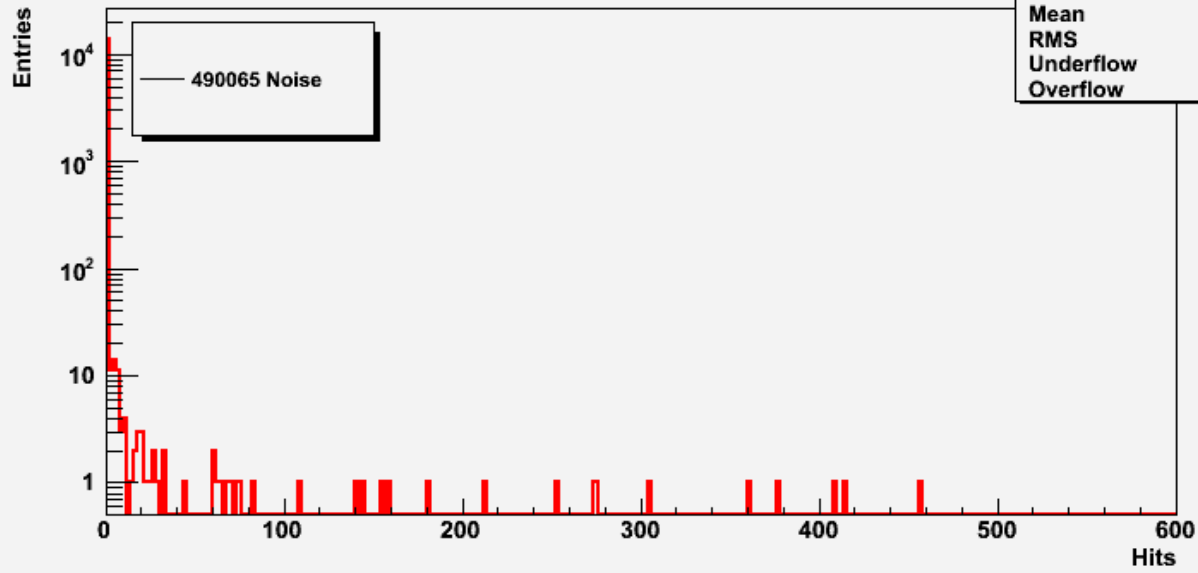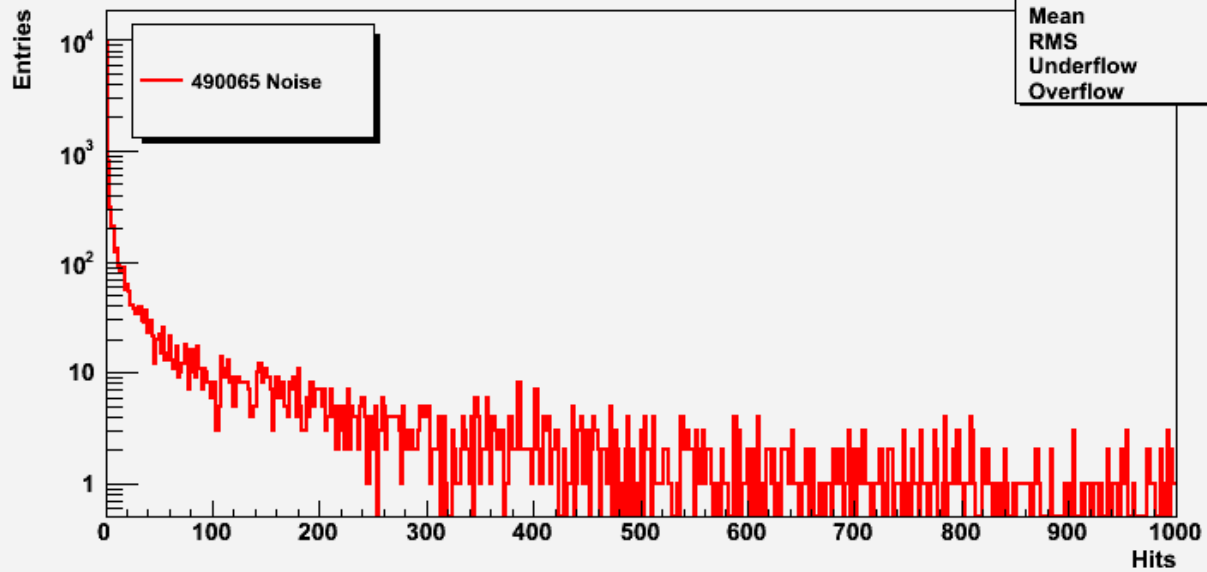
The PMT's
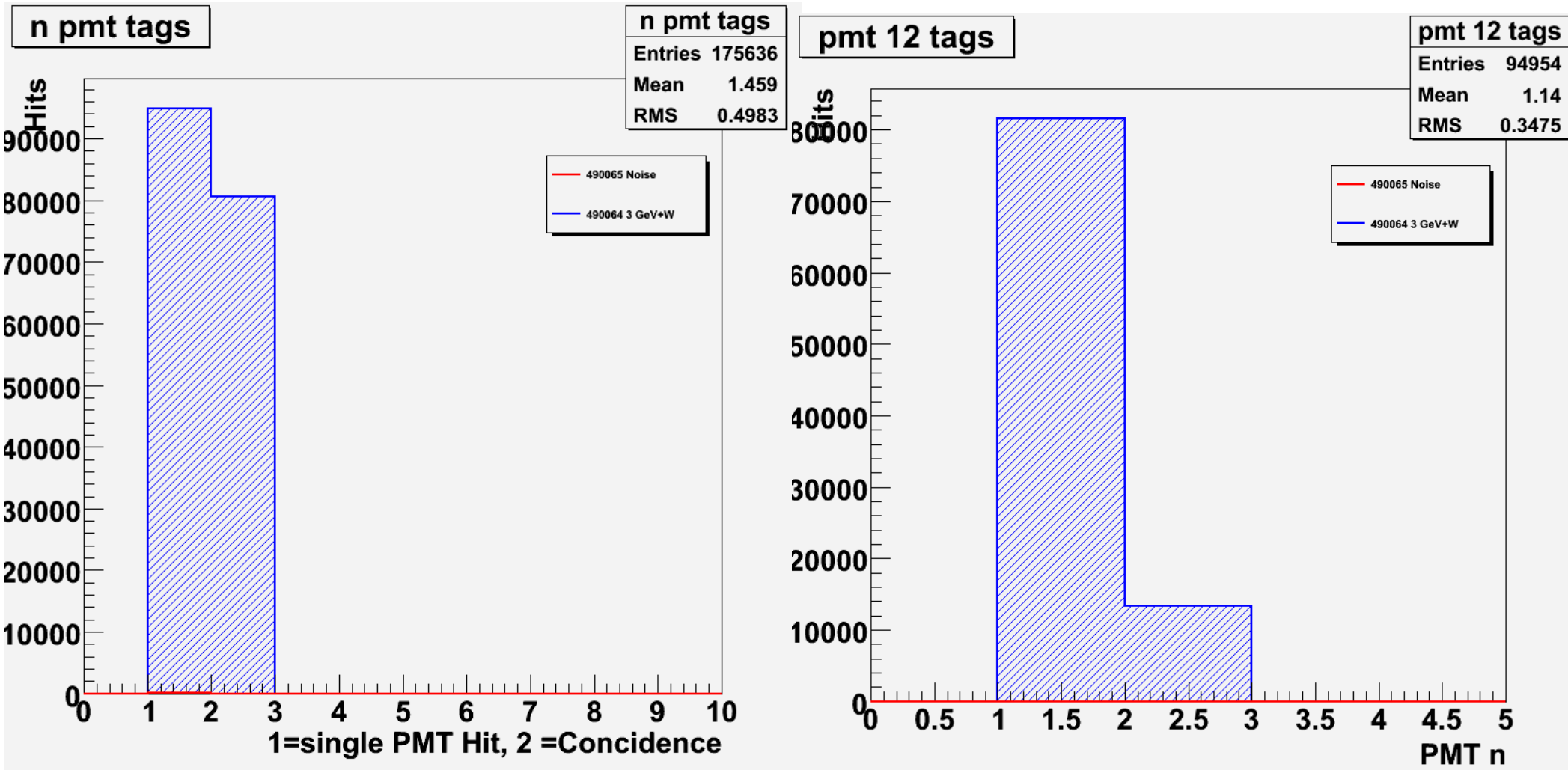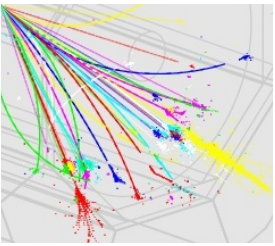
Clear evidence that they work to some extend ...

A closer look

PMT Coincidences per bunchtrain	
Entries	20000
Mean	4.026
RMS	5.547

490065 Noise
490064 3 GeV+W

Number of Hits with PM coincidence	
Entries	80682
Mean	0.2207
RMS	0.5416

490065 Noise
490064 3 GeV+W
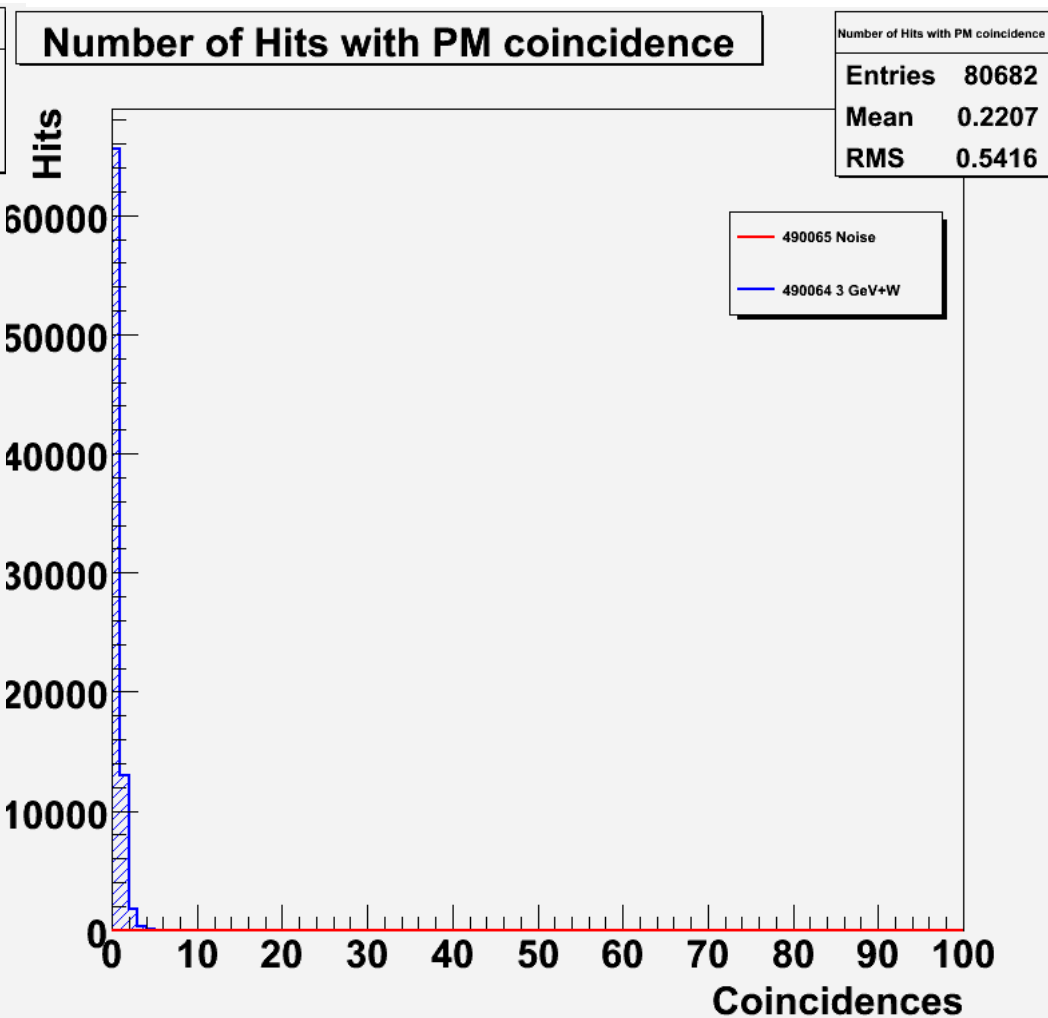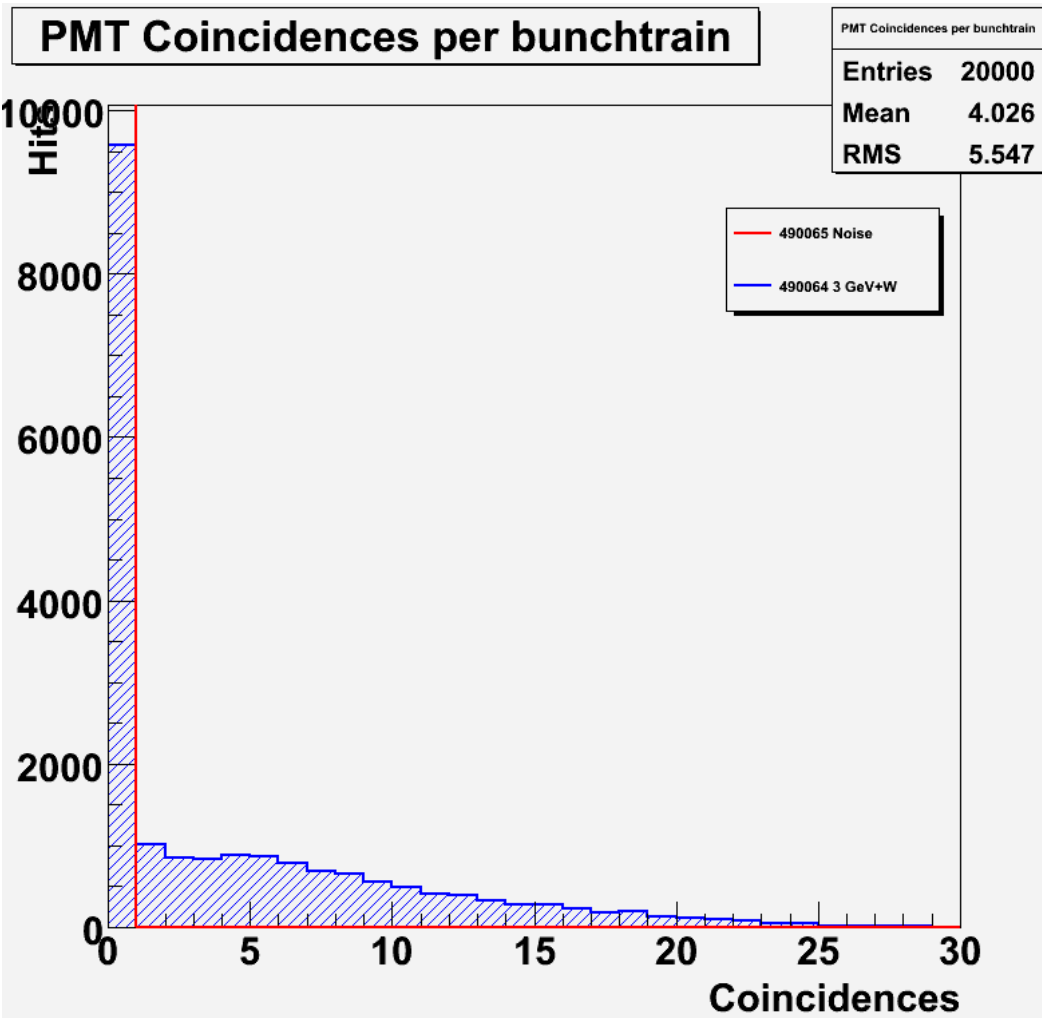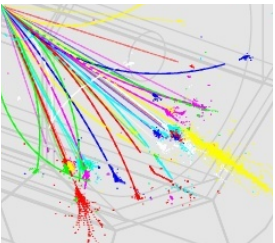
Still very few hits, could be timing ?

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Putting them to good use

- Use PMT information

- Require Coincidence

- Look only at bunchtrains with coincidences

- Clearly keep "physics" tail

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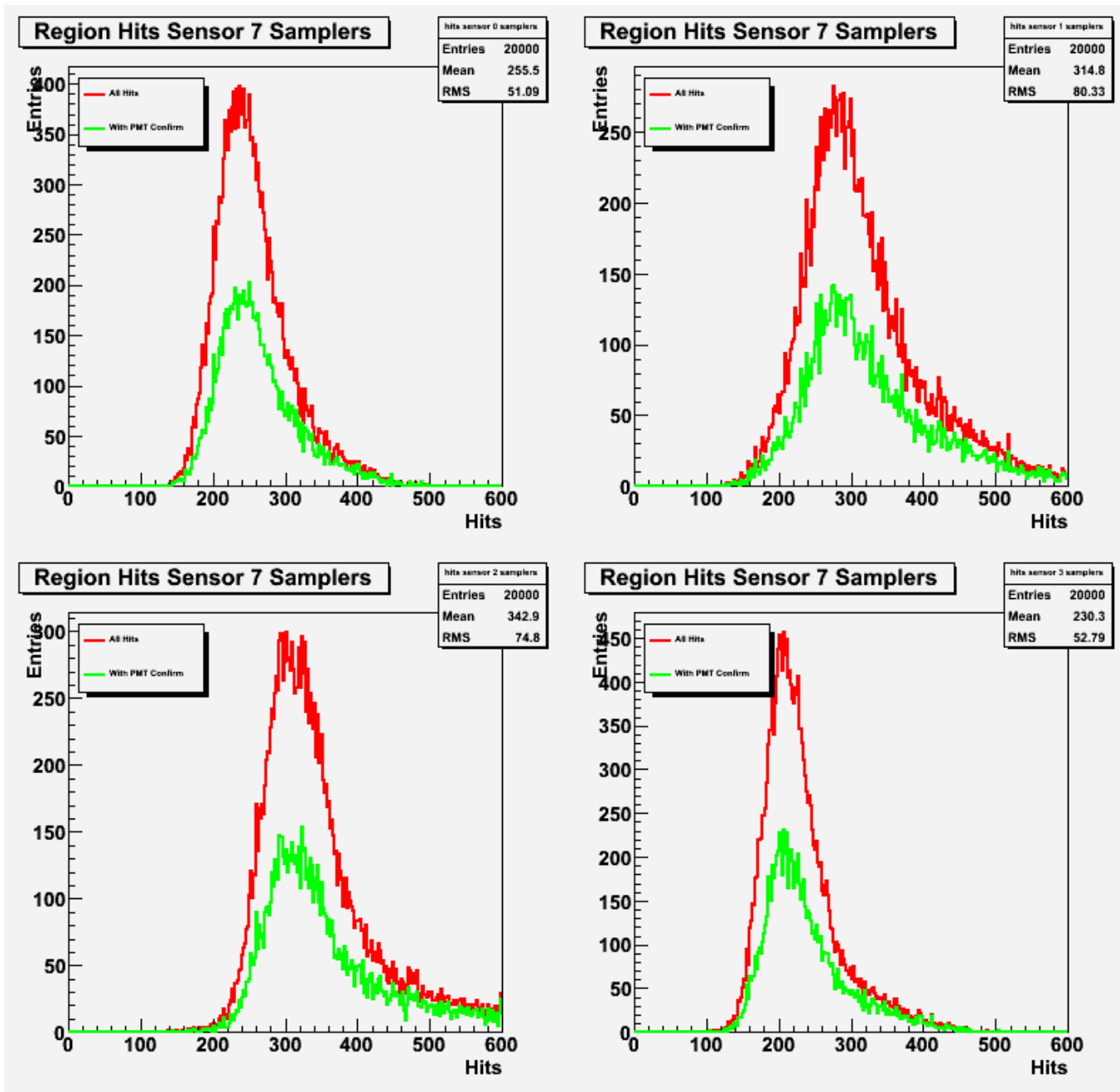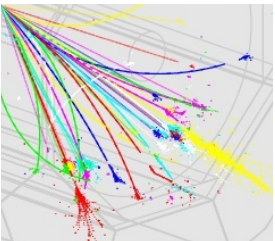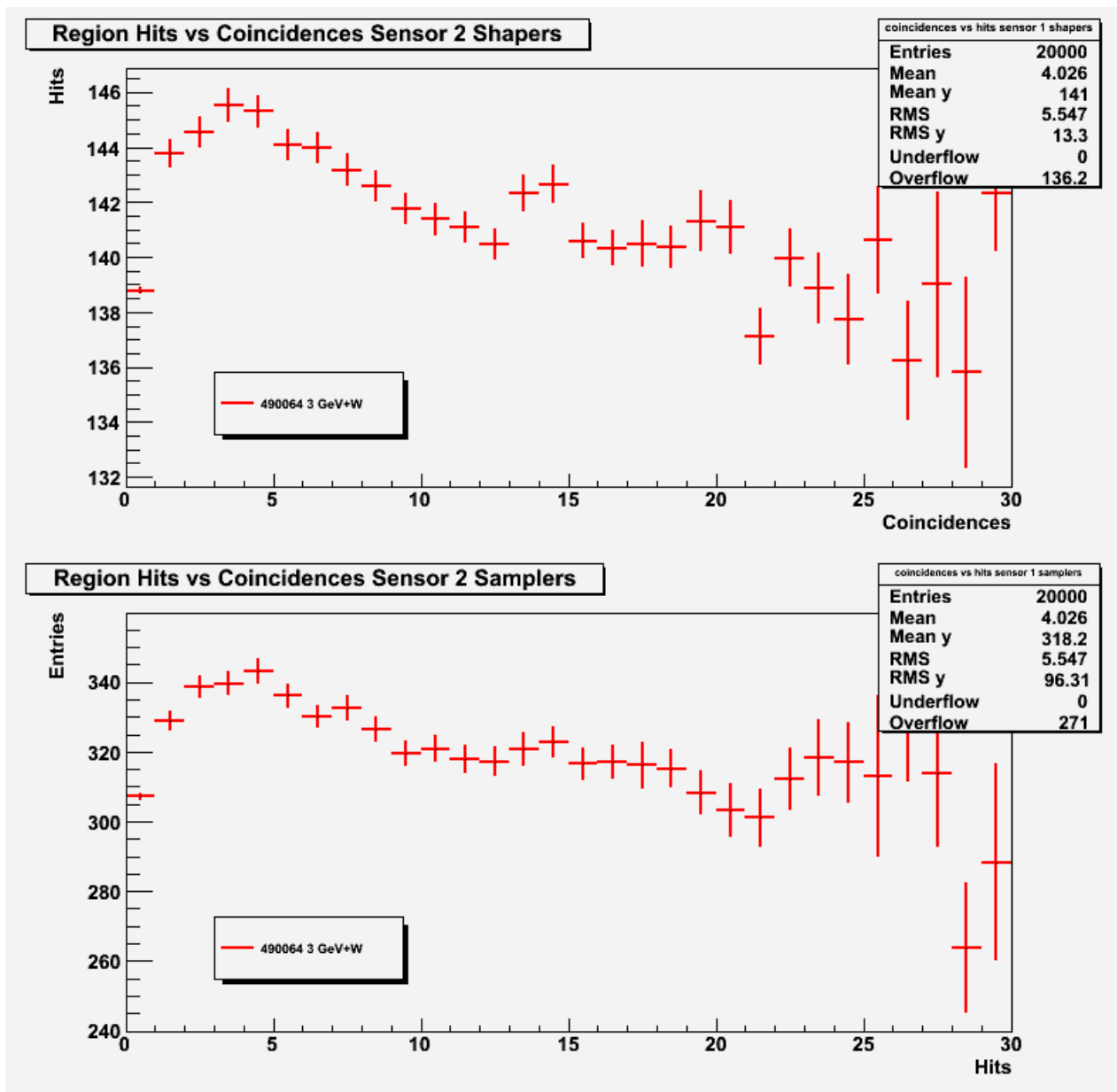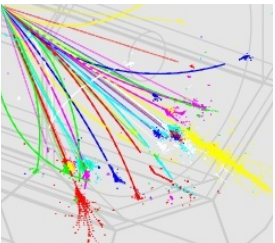
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And the samplers ?

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Another look

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Looking at showers

- Trying to find

  - events with 10 hits in total

  - that have the same timestamp

  - 1 hit in each layer

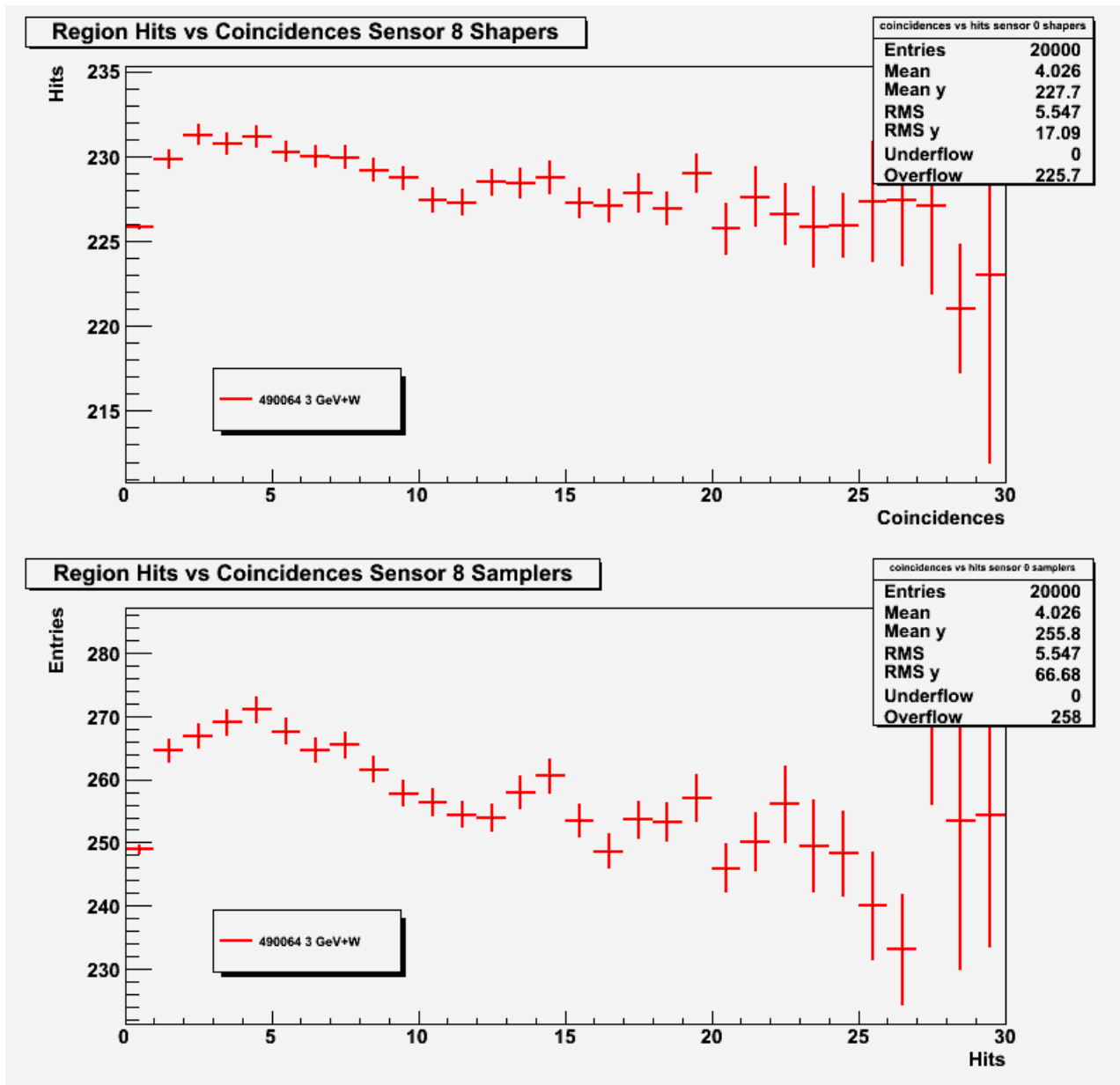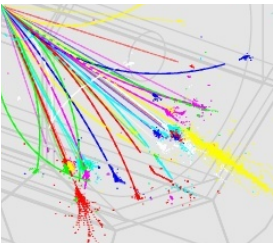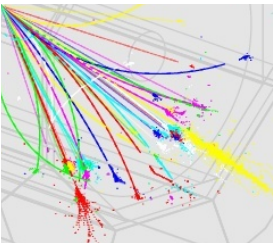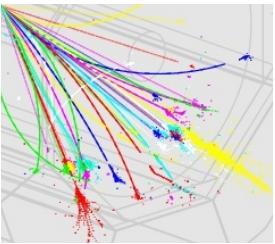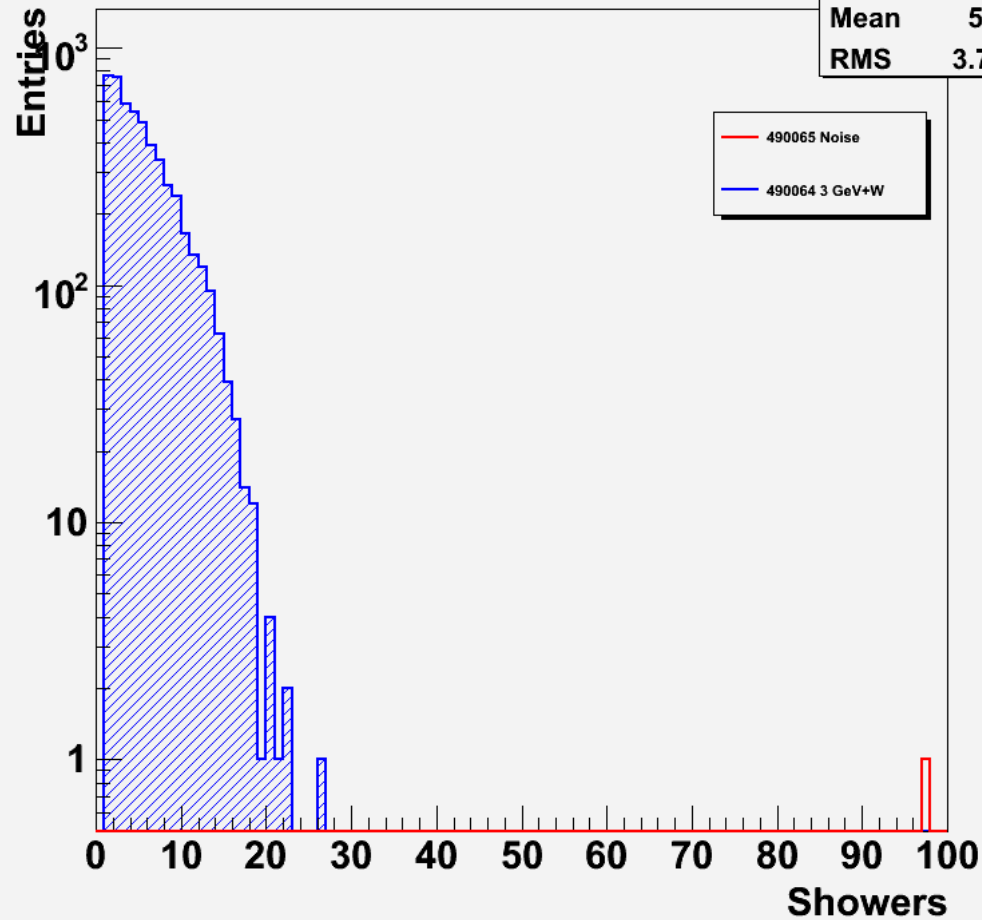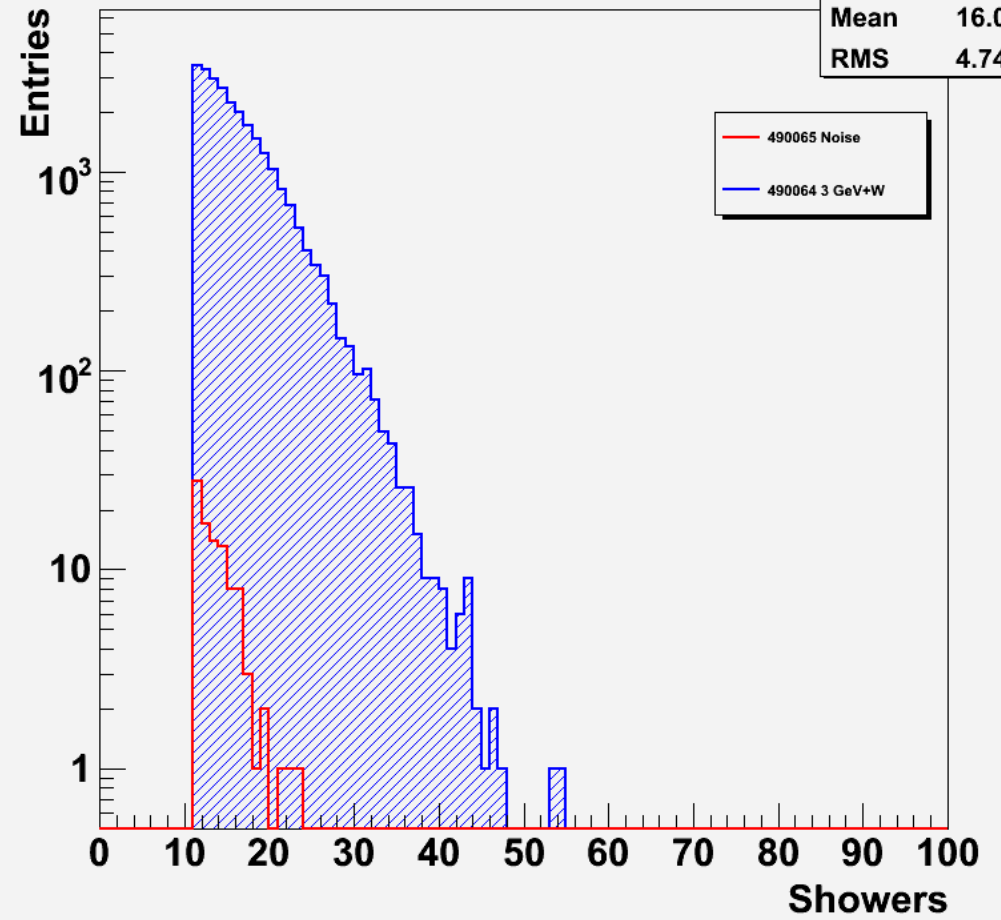- Very loose

  - will pick up lots of noise

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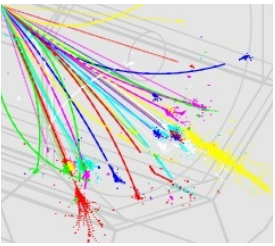Science & Technology Facilities Council
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Results

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Conclusions

- We see some physics

  - But not enough in my mind

  - Efficiency seems quite low

- Can be simple things

  - timing, the way we look for hits

- Or something wrong with the pixels

  - We know the analog noise in the test structures was fine

  - Do we pick up noise from somewhere ?

  - is it the digital backend ?

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