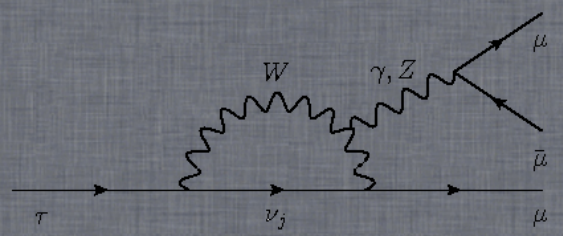
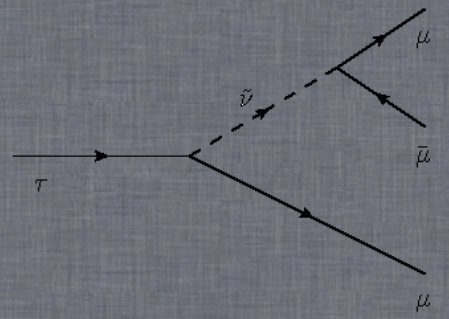
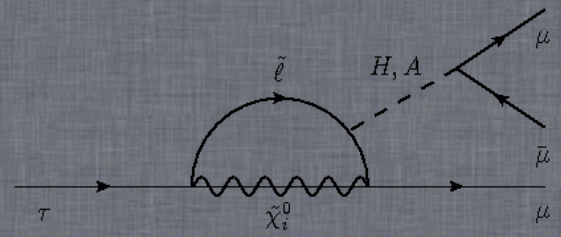
Quo vadis INMAPS?

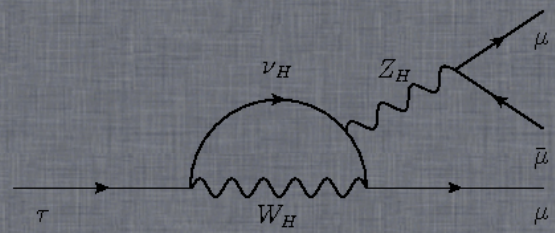
Alberto Lusiani, Marcin Chrząszcz

26*th* November 2012





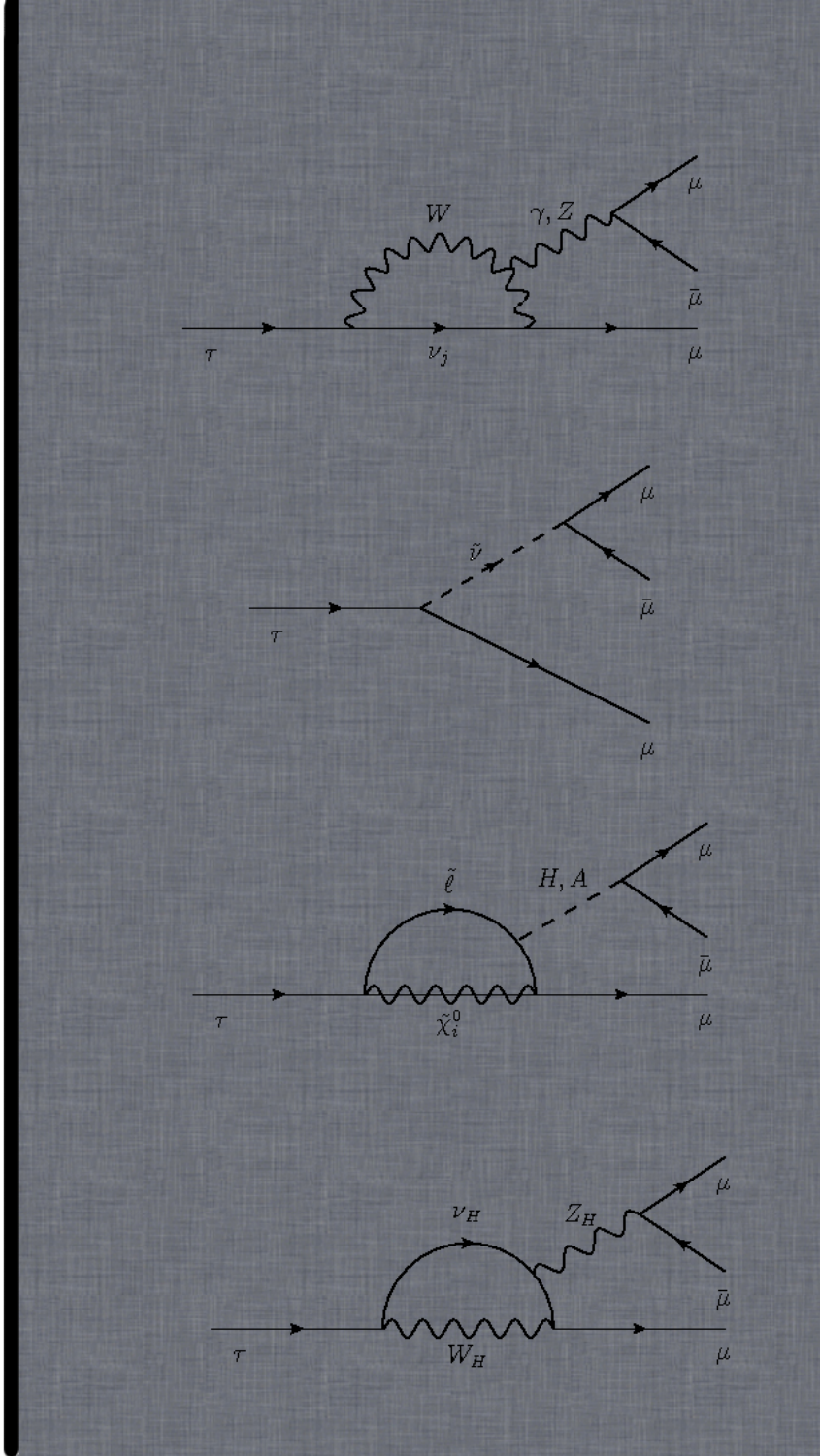




Analysis Method

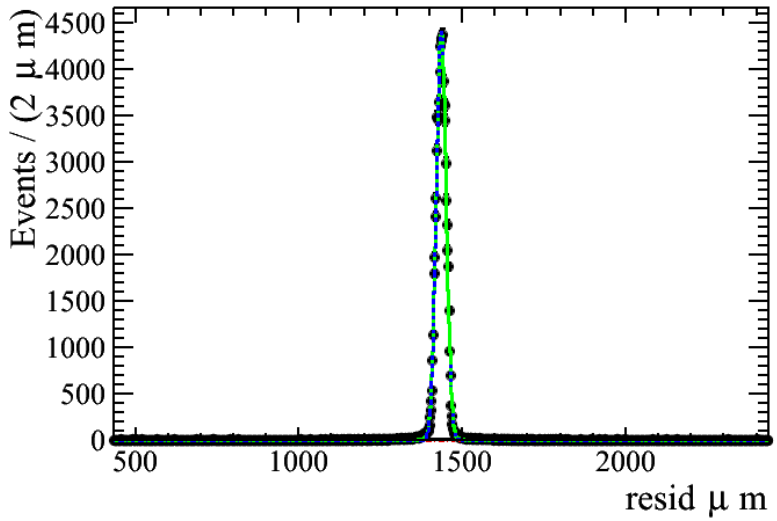
- Extracting the signal yield
- Residual Fits

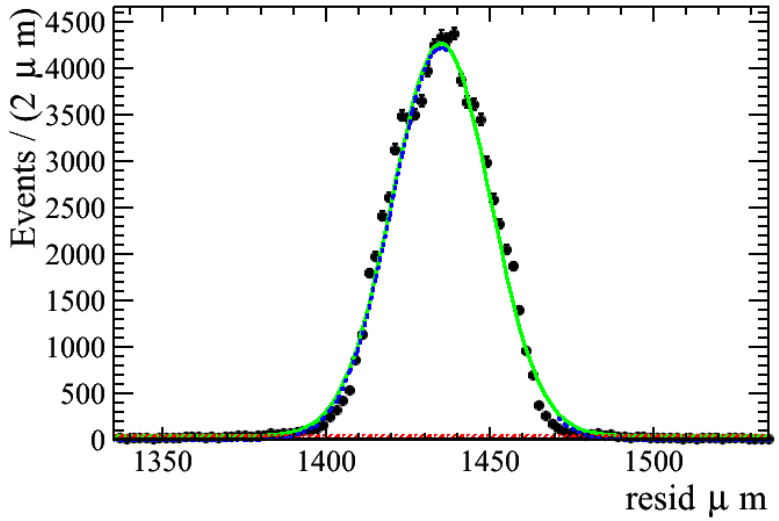
Resolution drop



Eff vs. thr

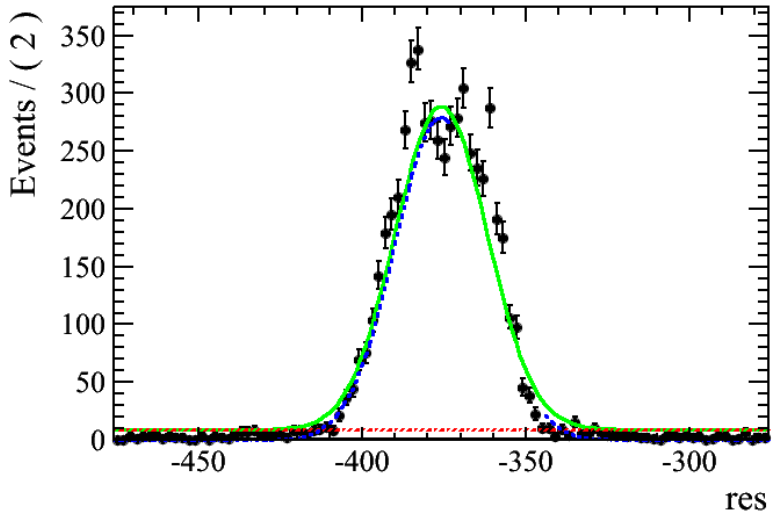
- Pre Fit the residual with signal Gaussian. Form this we will know where to look for the peak.
- Fit with the pdf: $f(x) = aGauss(\overline{x}, \sigma; x) + bExp(\lambda; x)$
- $\overline{x}, \sigma, \lambda$ free parameters.
- Using an Extended maximum likelihood fit get the number of signal events.
- Error on this number coming from fit will be treated as systematics.
- Please note that we have units on the plots =)

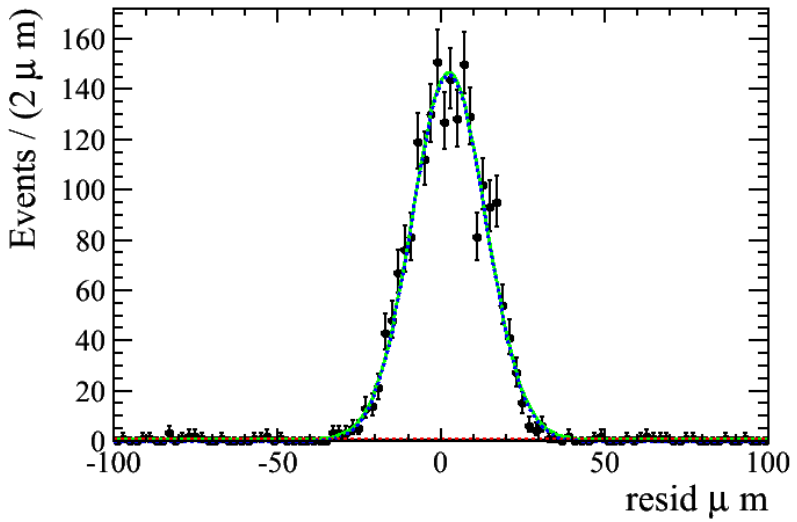




Extracting the signal yield 2

- In case of angular scan I cut away 4 pixels up and down in Y and 8 on left and right side.
- Implemented binned(unbinned not that easy) maximum likelihood.
- Assuming Gauss + Exp.





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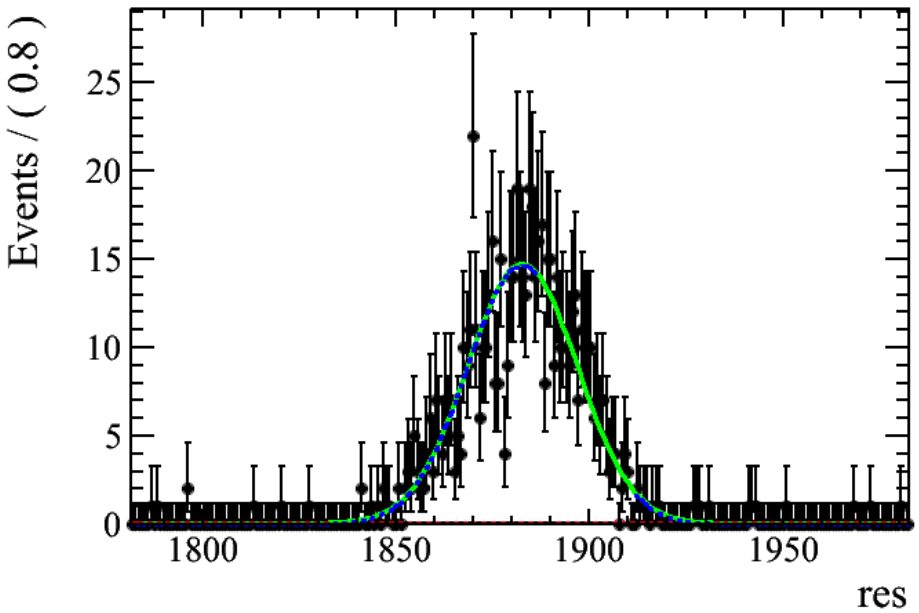
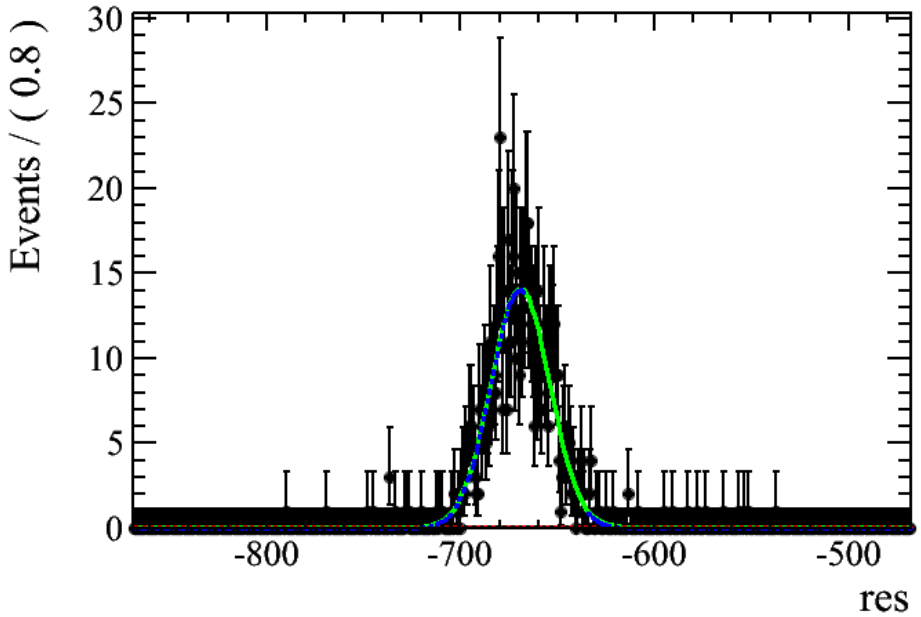
Residual Fits, run 4289, Thr=2330

All plots are for CHIP13. (Lets understand one at the time)

X view



Y view



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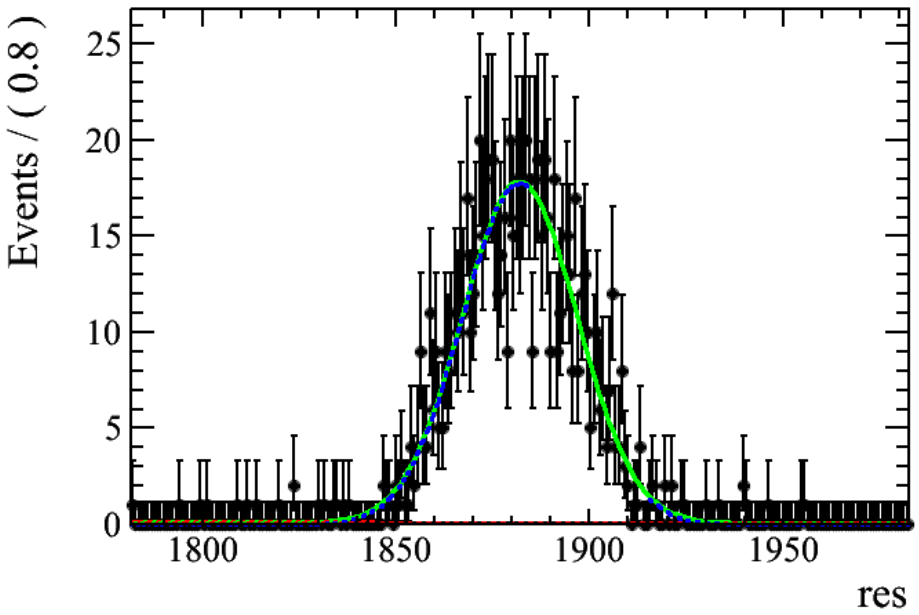
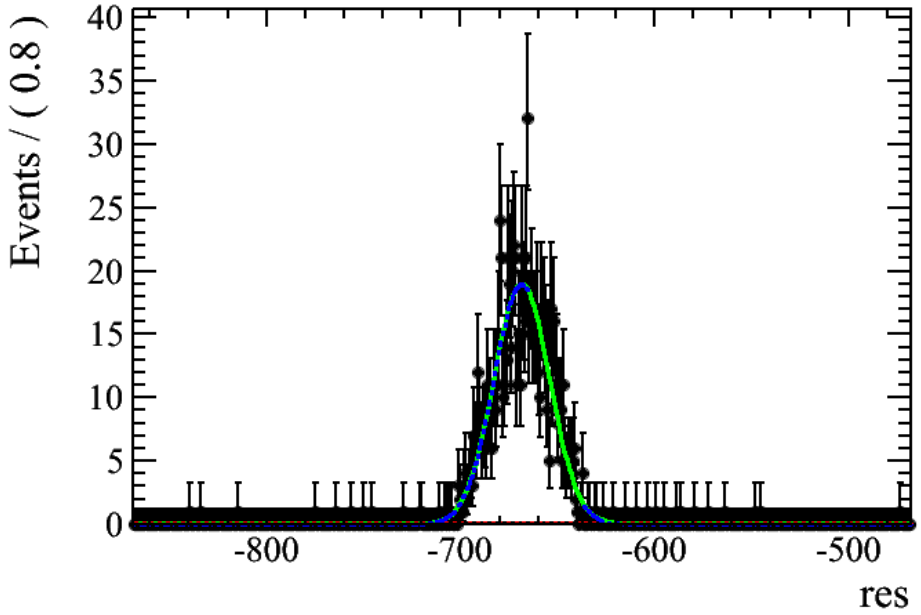
Residual Fits, run 4291, Thr=2340

All plots are for CHIP13. (Lets understand one at the time)

X view



Y view



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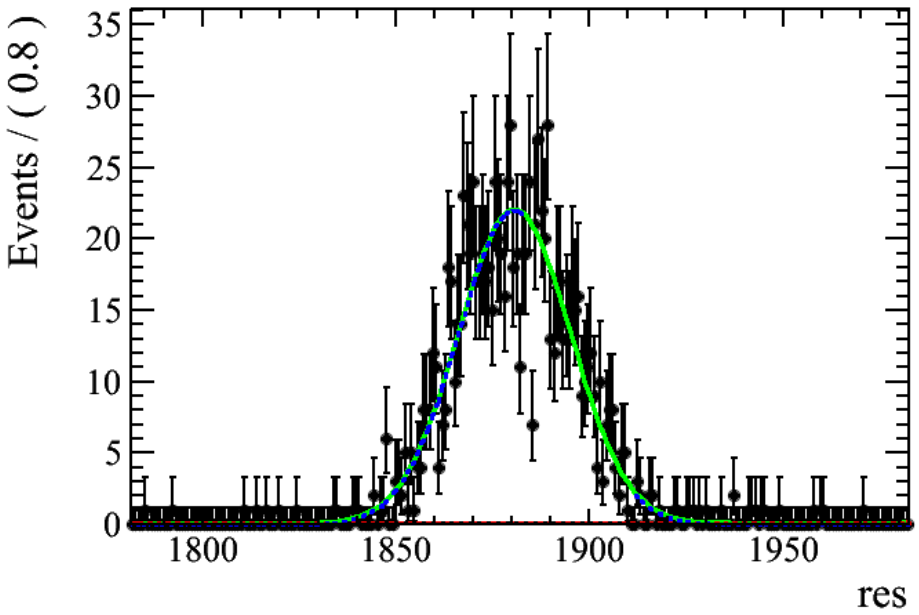
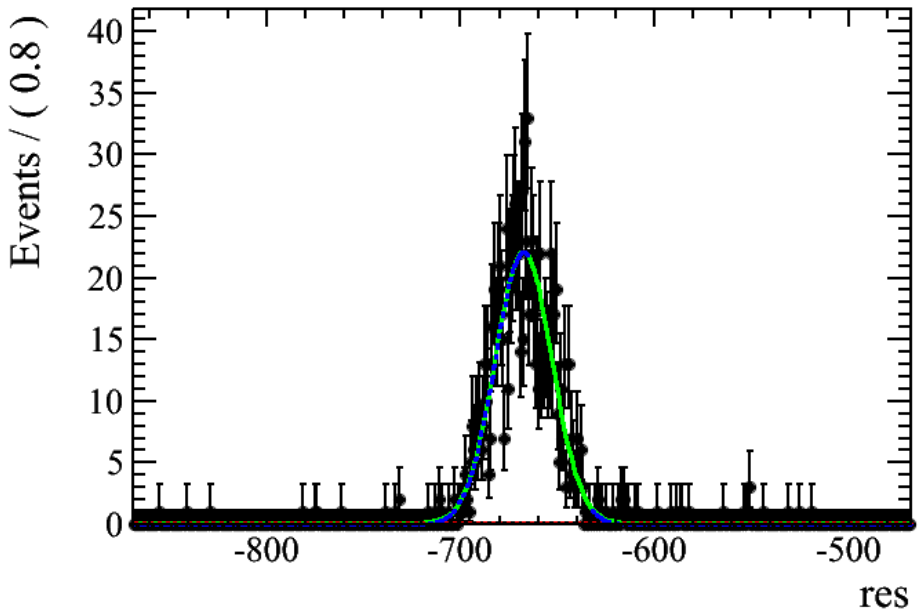
Residual Fits, run 4293, Thr=2350

All plots are for CHIP13. (Lets understand one at the time)

X view



Y view



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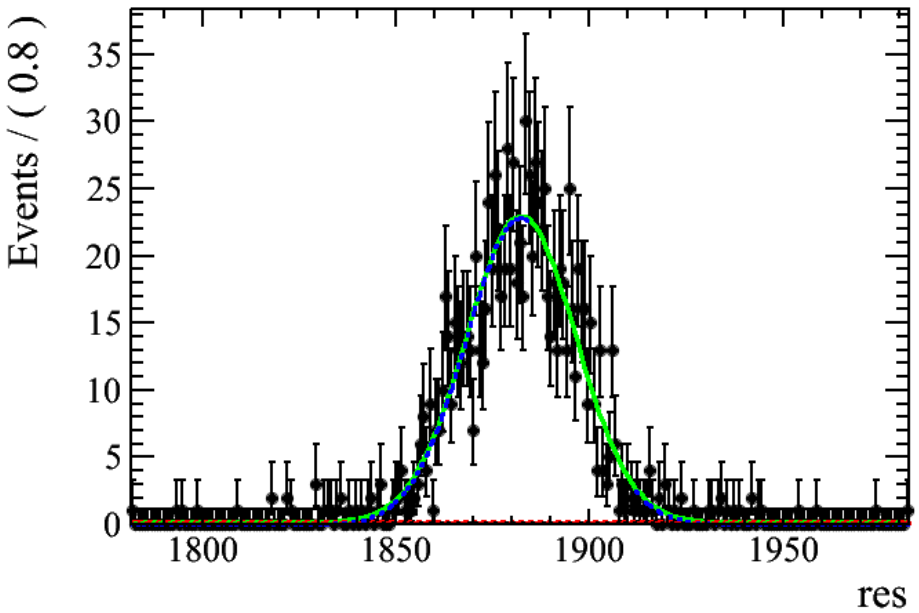
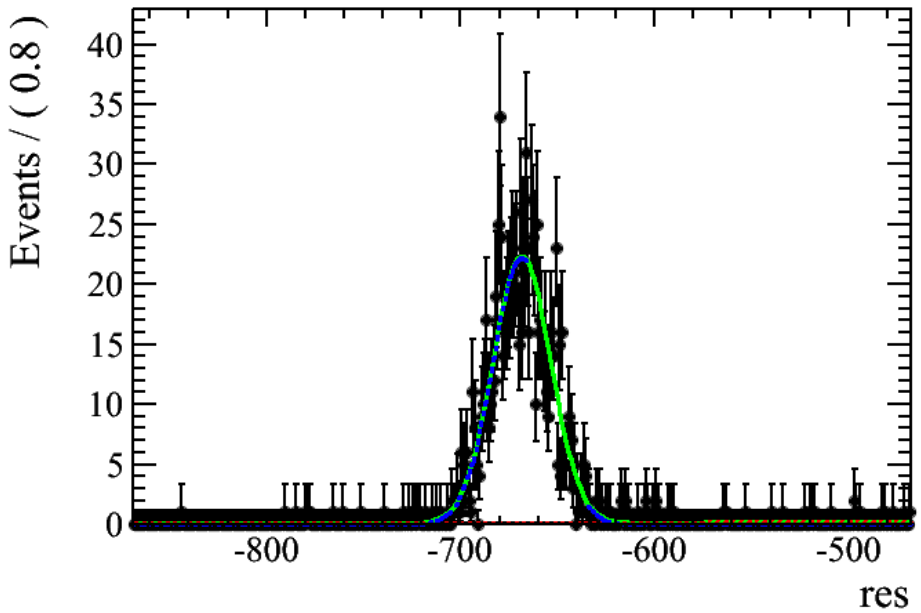
Residual Fits, run 4295, Thr=2360

All plots are for CHIP13. (Lets understand one at the time)

X view



Y view



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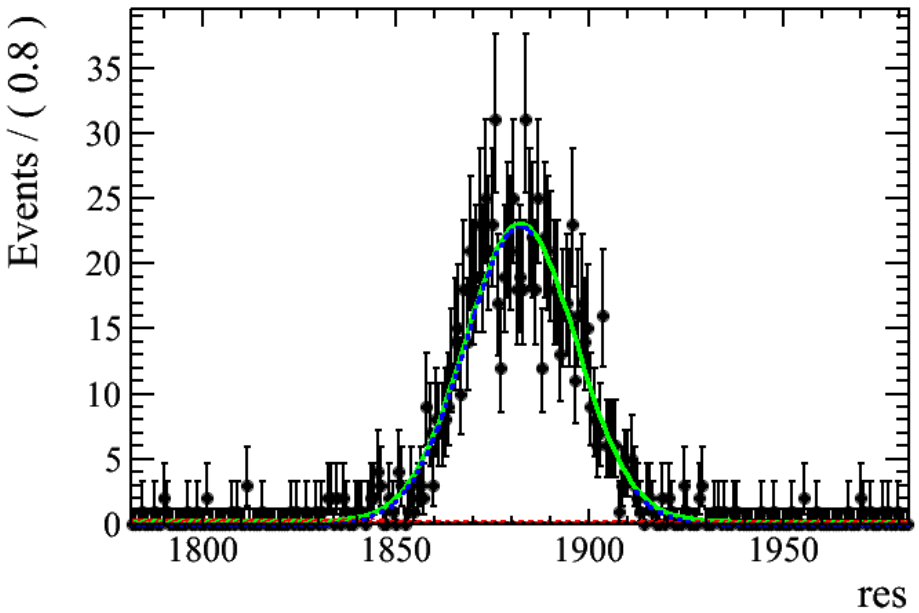
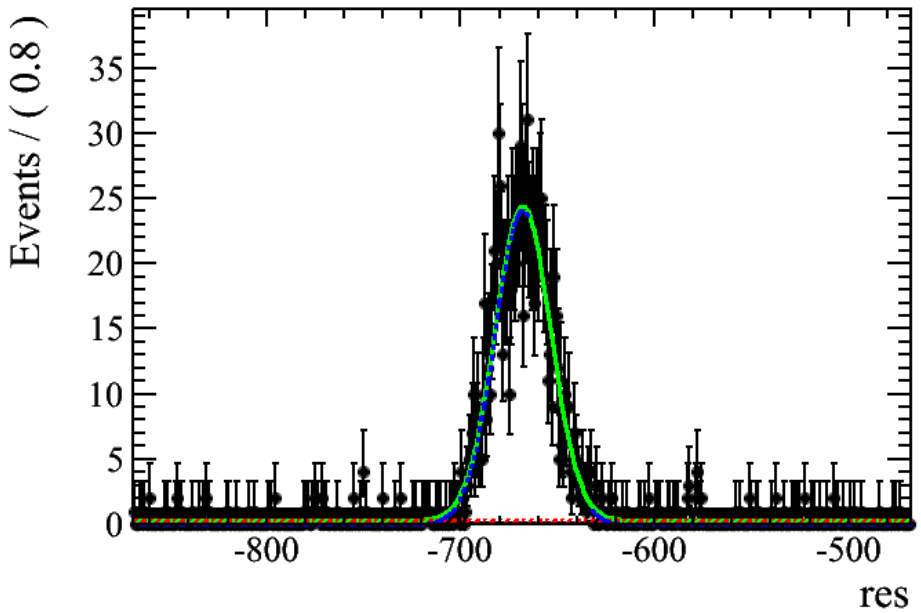
Residual Fits, run 4297, Thr=2370

All plots are for CHIP13. (Lets understand one at the time)

X view



Y view



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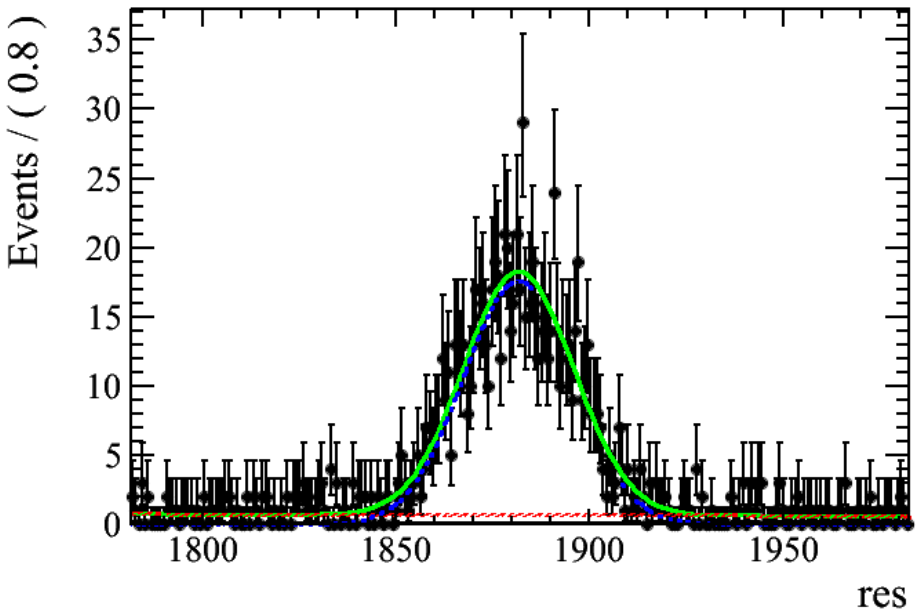
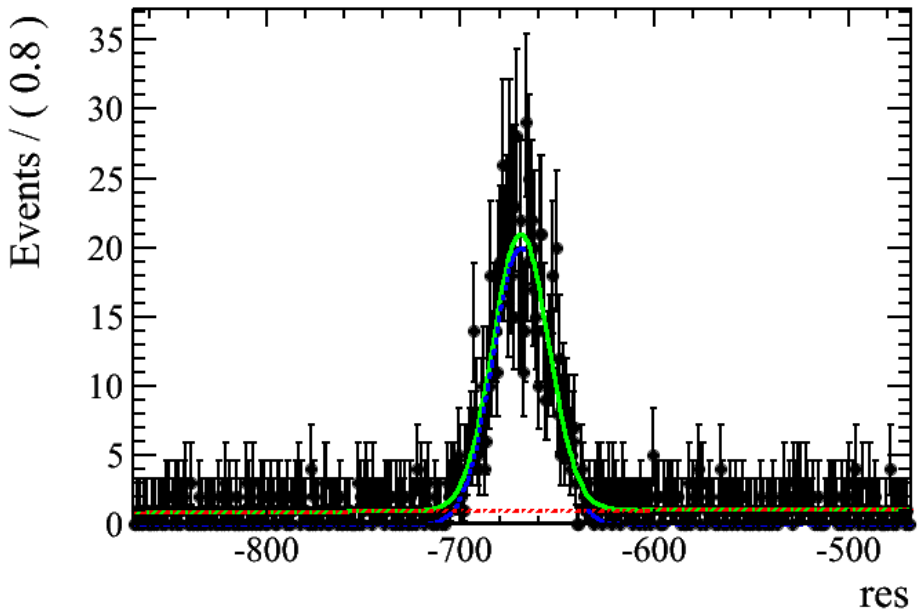
Residual Fits, run 4299, Thr=2380

All plots are for CHIP13. (Lets understand one at the time)

X view



Y view



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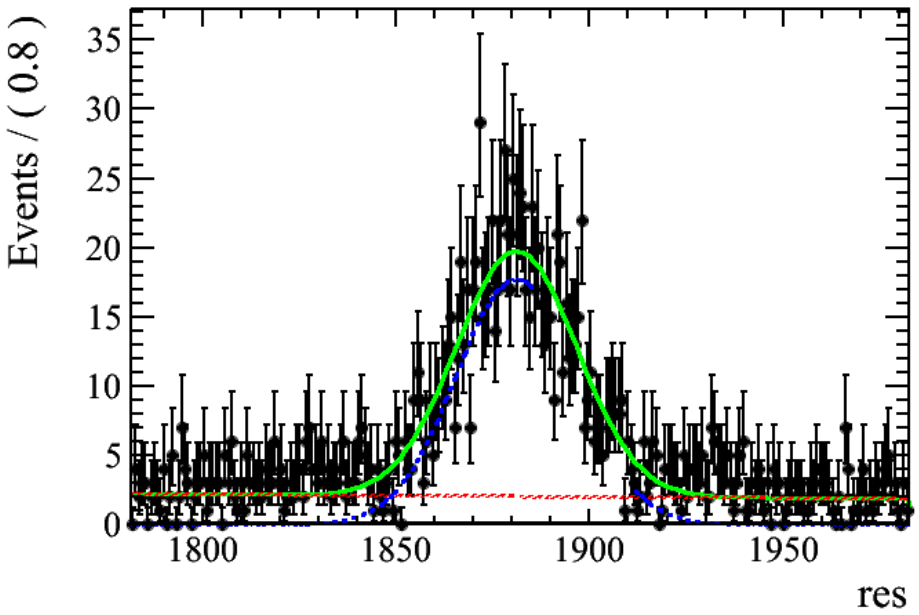
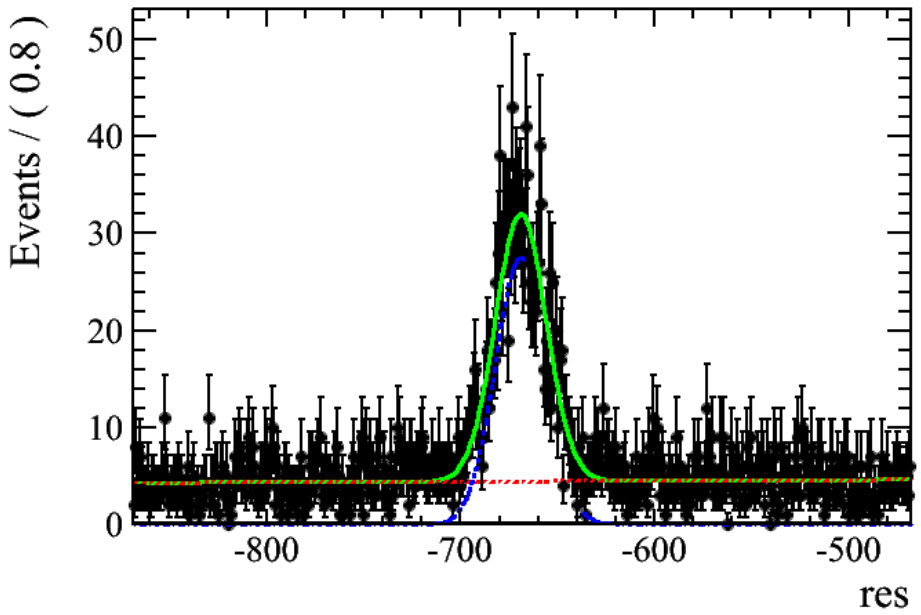
Residual Fits, run 4301, Thr=2390

All plots are for CHIP13. (Lets understand one at the time)

X view



Y view



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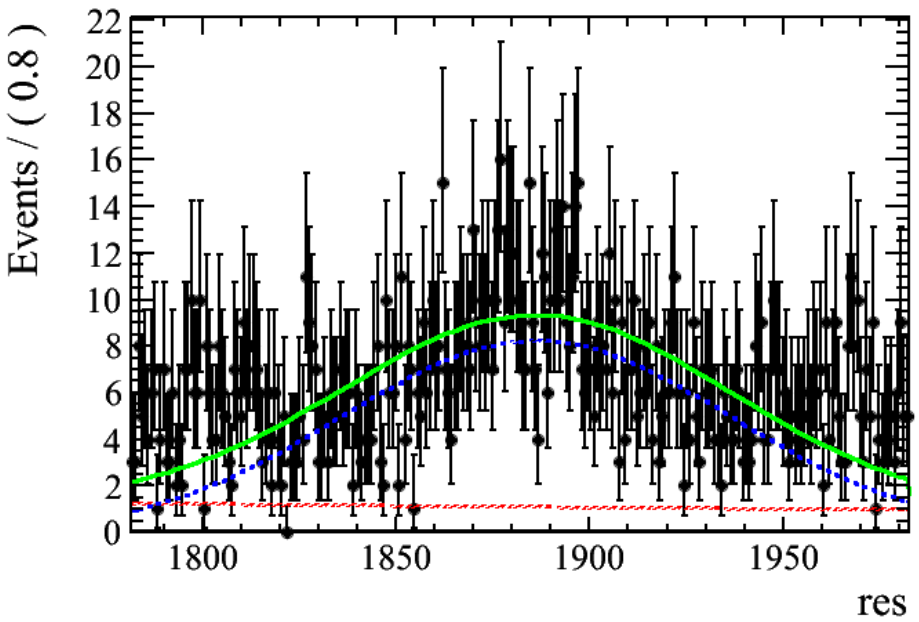
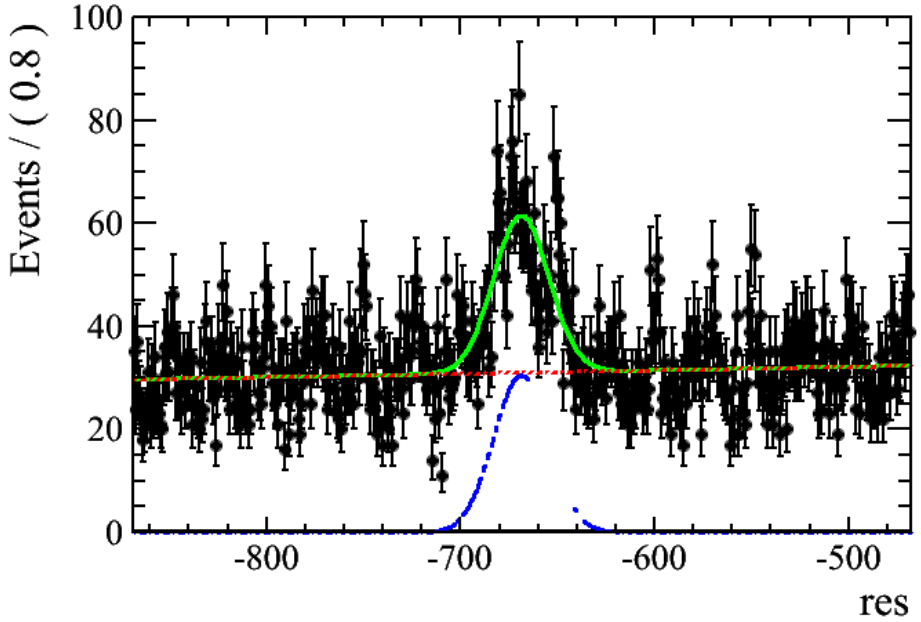
Residual Fits, run 4303, Thr=2400

All plots are for CHIP13. (Lets understand one at the time)

X view



Y view



What is going on?!?!

We are loosing him...

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Where does the increase of resolution come from?

Investigated Guliana's theory that the pixels fire in a row. On friday I send around instructions how to use the SbtViewer. To speed things up I made a video: LINK

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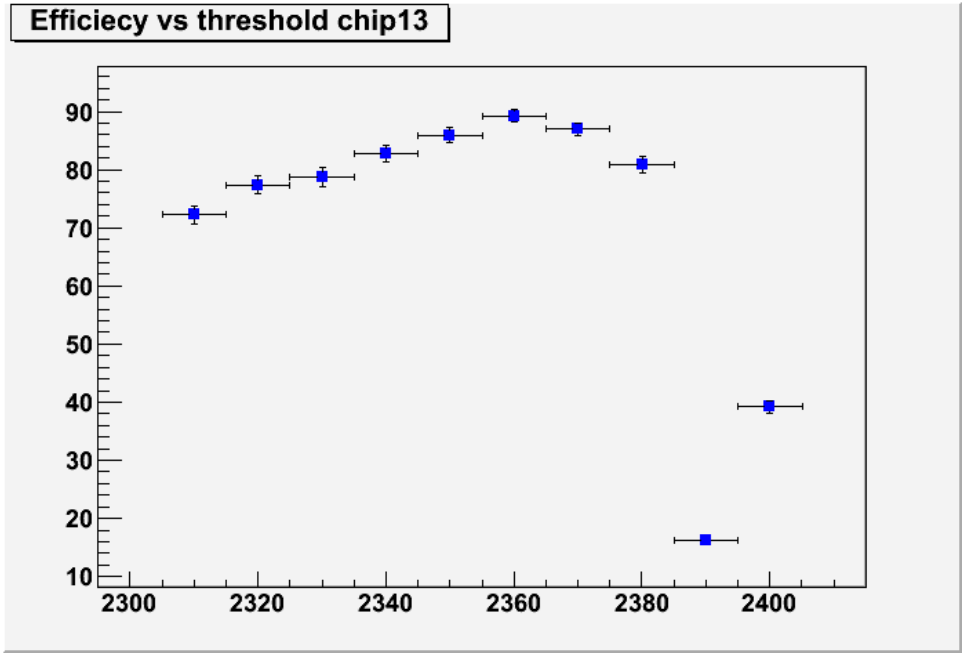
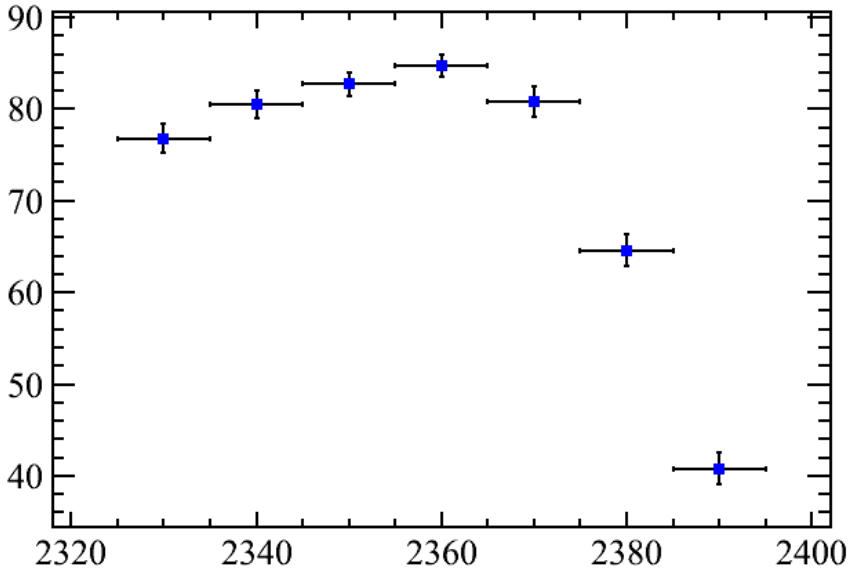
Eff vs. threshold

OLD



NEW



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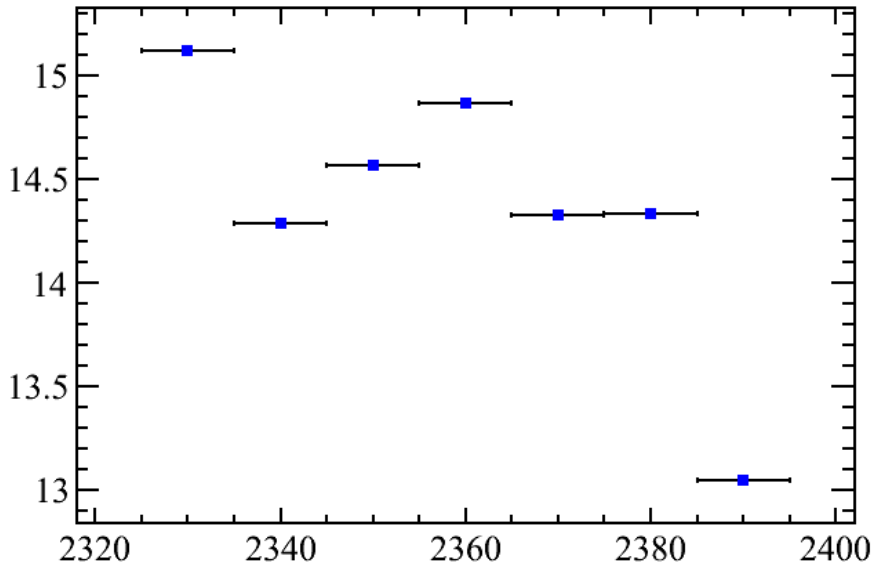
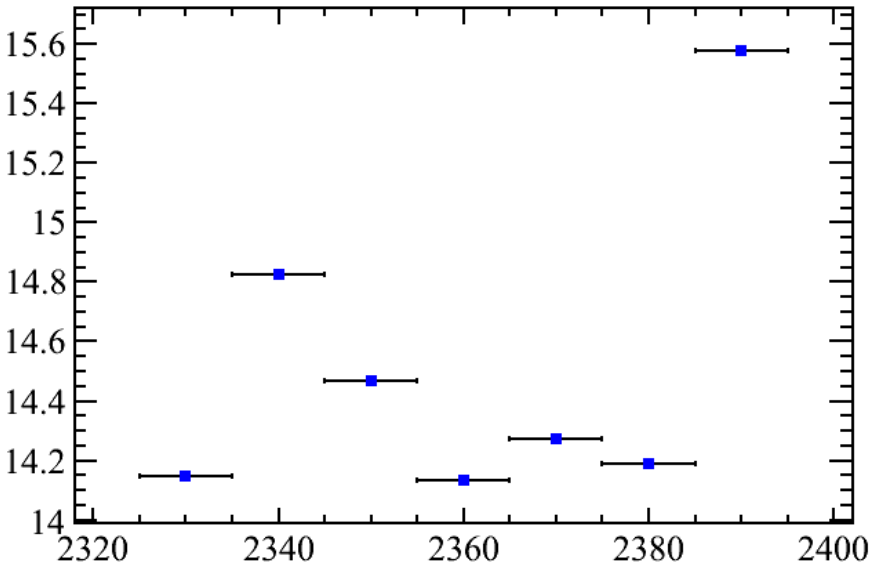
Resolution vs threshold

X



Y



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