

# Energy Simulation Analysis

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# Summary

- Energies Simulation
  - Orca Fusion
  - Orca Quest
  - Thorit
- Conclusion
- Next Steps

# Initial Considerations

## ***Cuts:***

sc\_nhits > 30

## ***Procedures:***

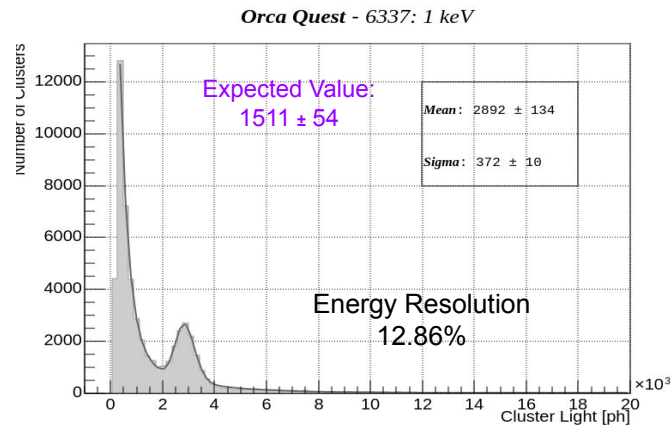
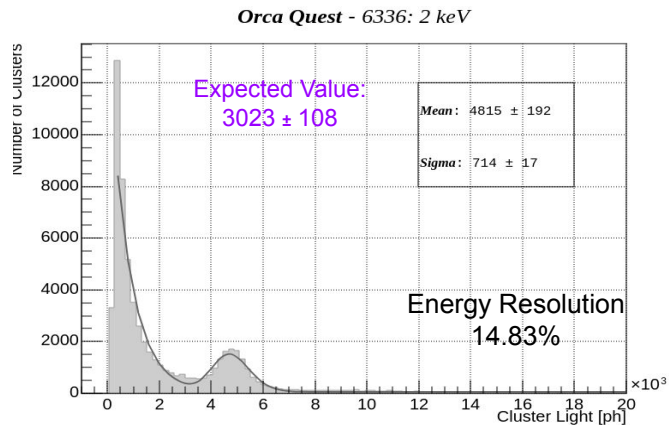
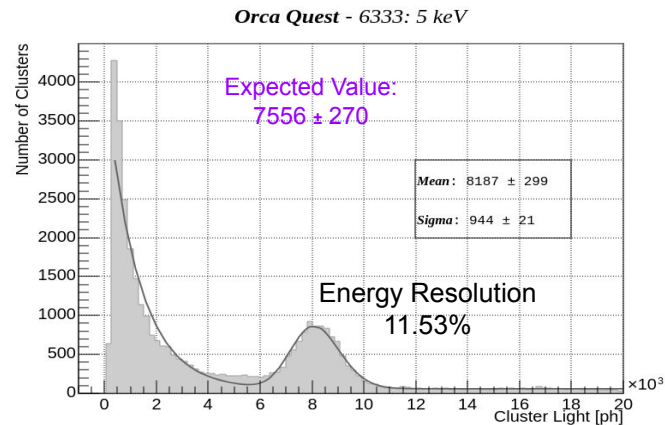
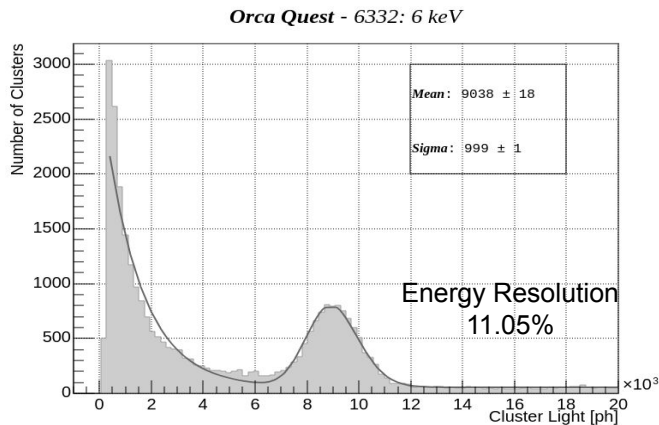
Iron - Cosmics > 0

## ***Estimated ADC:***

$$EstimatedValue = \frac{MeasuredADC \text{ for } 6keV \times SimulatedkeV}{6keV}$$

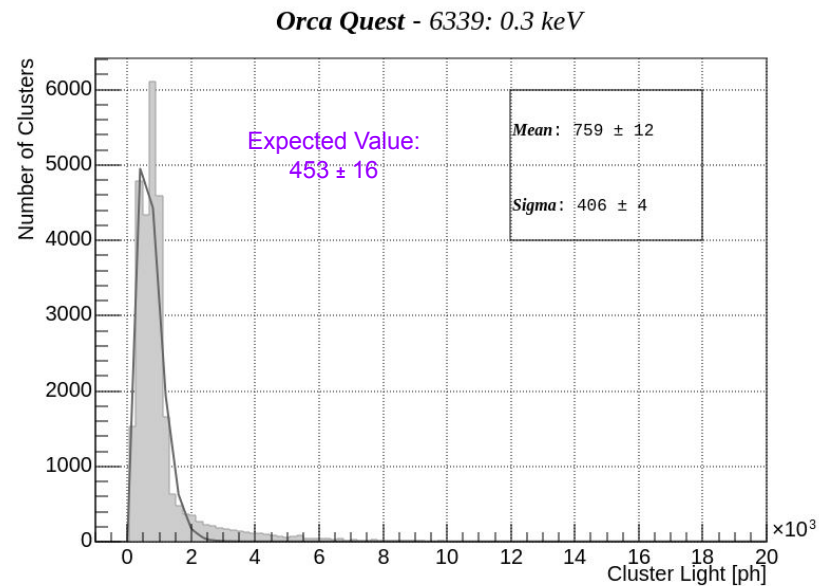
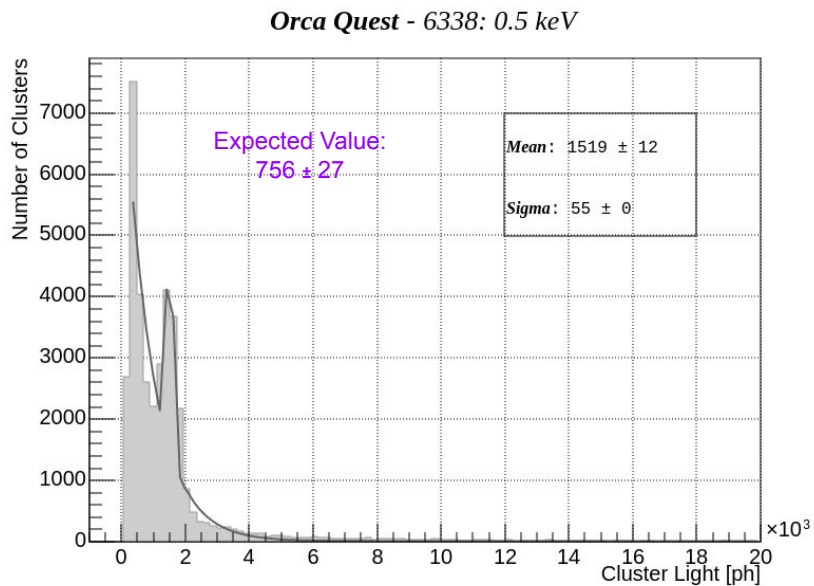
The start: only  $^{55}\text{Fe}$  runs

# Quest (1 to 6 keV)



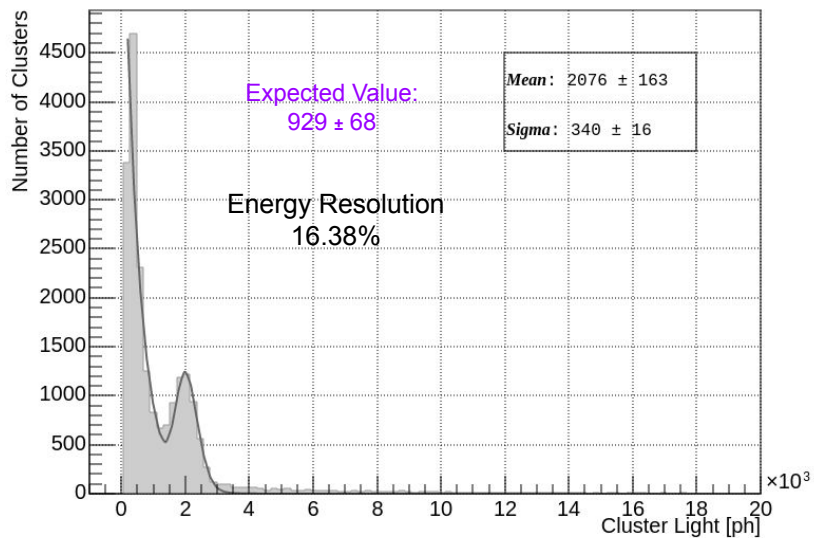
# Quest (from 0.3 to 0.5 keV)

- Need to be redone (binning and fit)

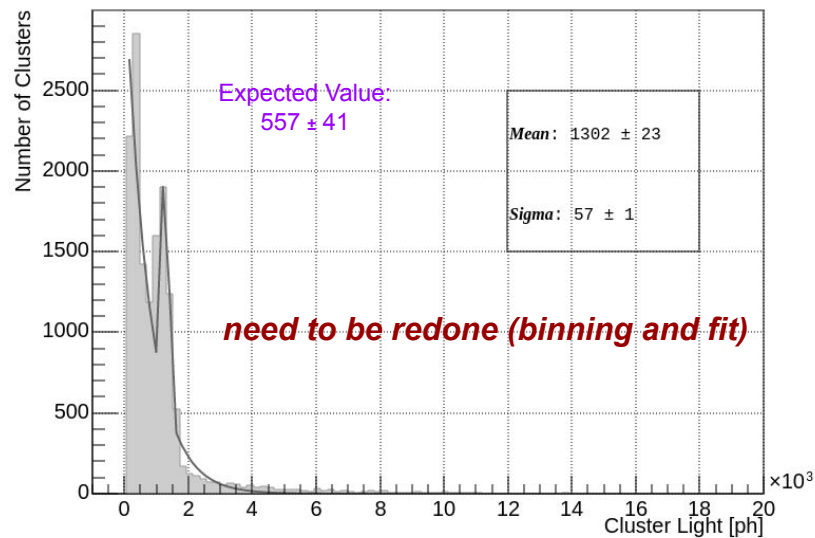


# Fusion (from 0.3 to 0.5 keV)

*Orca Fusion BT - 6312: 0.5 keV*



*Orca Fusion BT - 6313: 0.3 keV*

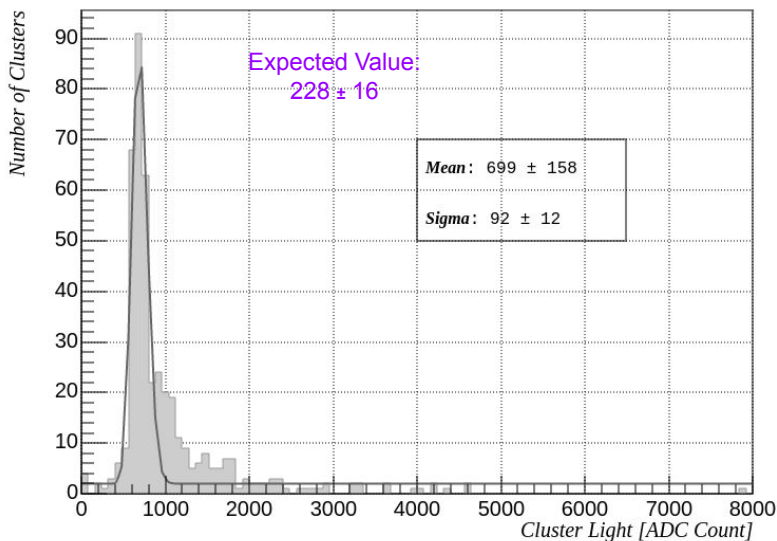


# Thorit (from 0.3 to 0.5 keV)

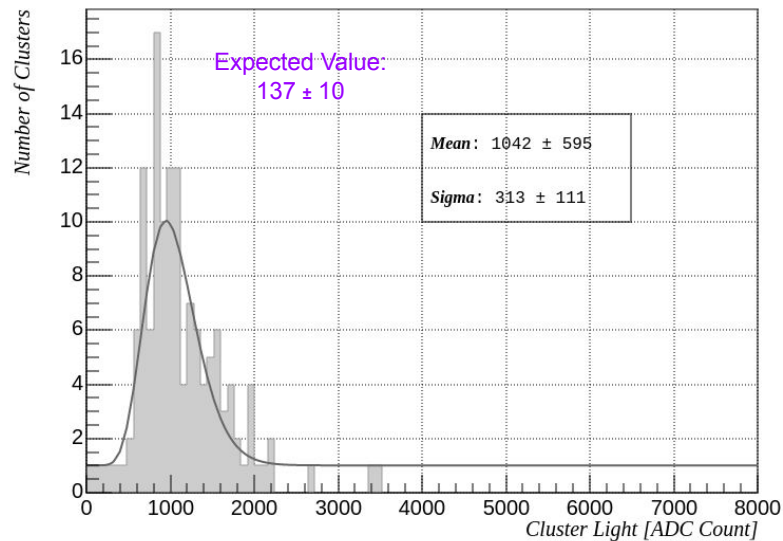
- For 0.5 keV part of the clusters were lost
- For 0.3 keV ~all the clusters were lost

*not possible to properly fit data*

*Thorit - 6361: 0.5 keV*



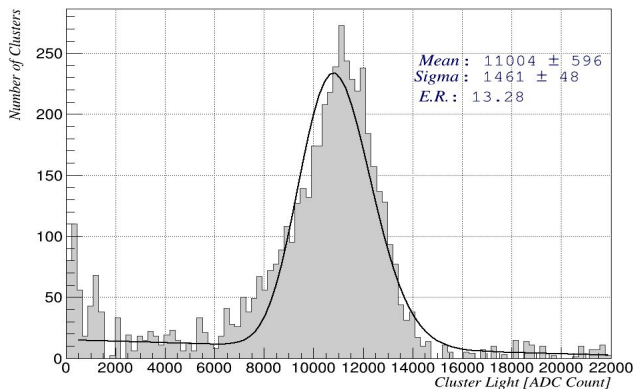
*Thorit - 6362: 0.3 keV*



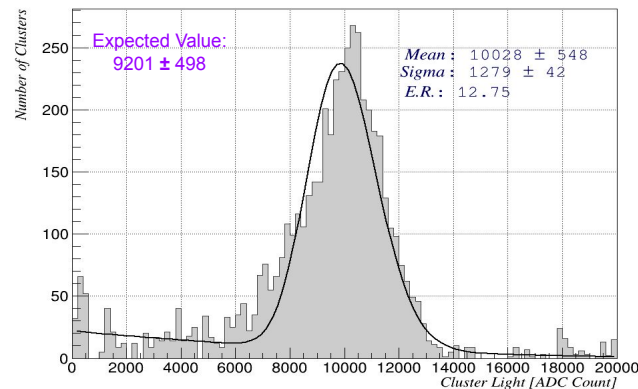
After subtract the cosemics

# Orca Fusion (from 6 to 3 keV)

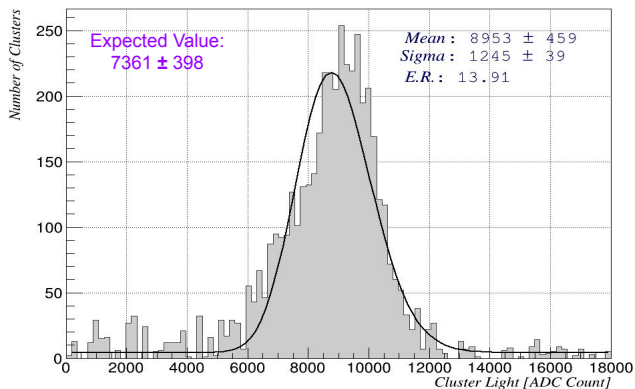
Orca Fusion BT - Difference: 6306 - 6298: 6 keV



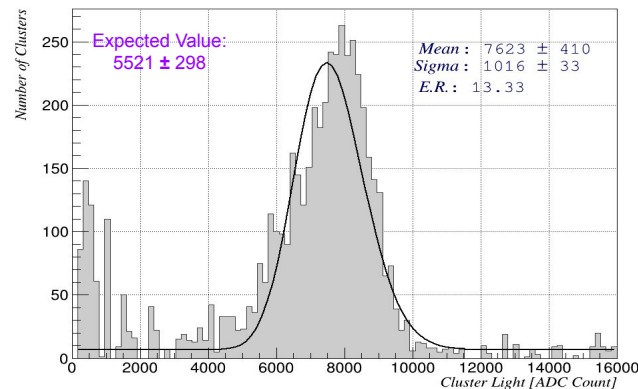
Orca Fusion BT - Difference: 6307 - 6299: 5 keV



Orca Fusion BT - Difference: 6308 - 6300: 4 keV

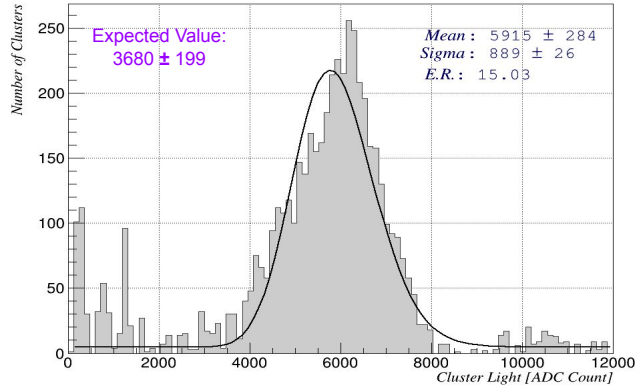


Orca Fusion BT - Difference: 6309 - 6301: 3 keV

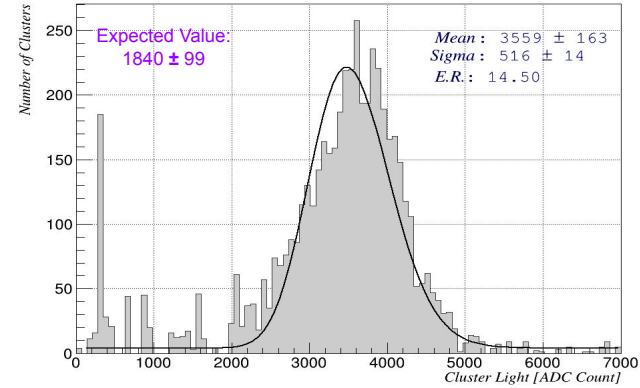


# Orca Fusion (from 2 to 0.3 keV)

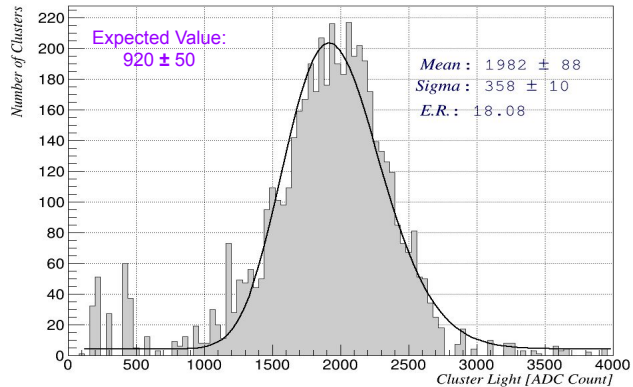
Orca Fusion BT - Difference: 6310 - 6302: 2 keV



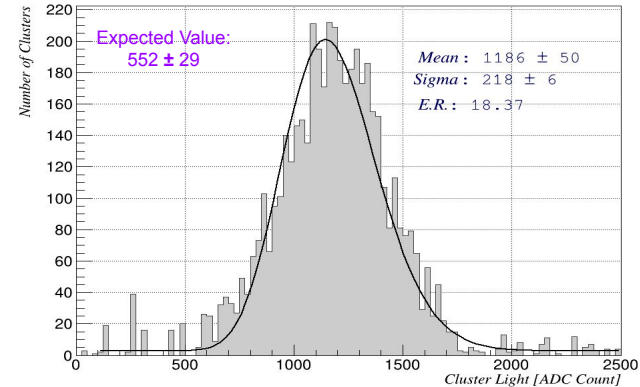
Orca Fusion BT - Difference: 6311 - 6303: 1 keV



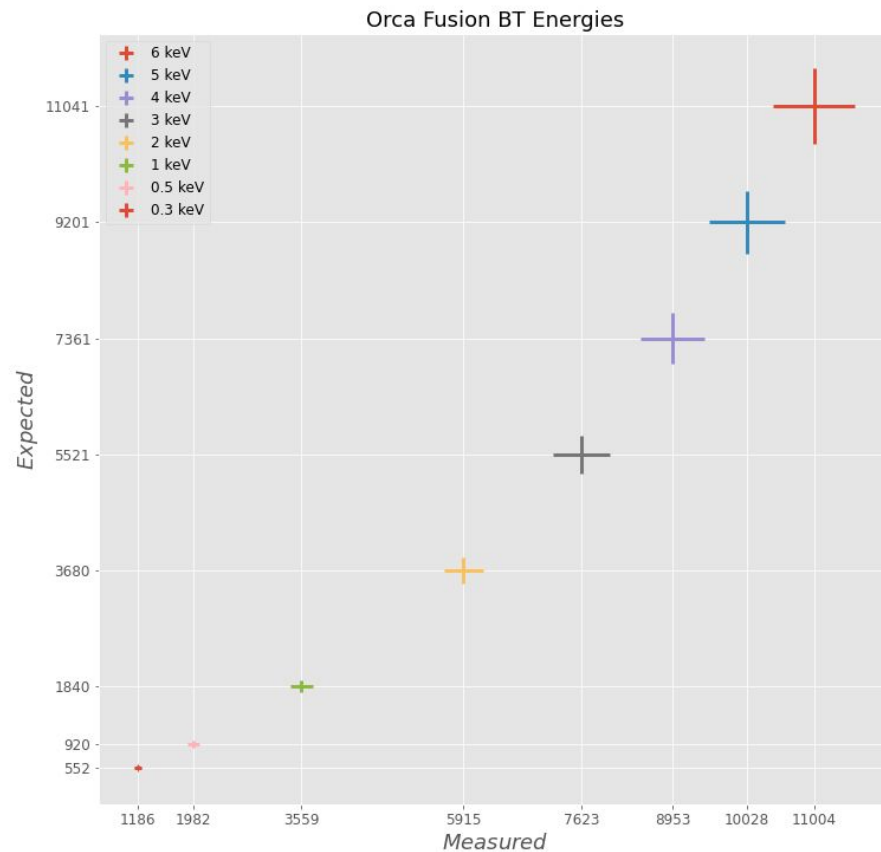
Orca Fusion BT - Difference: 6312 - 6304: 0.5 keV



Orca Fusion BT - Difference: 6313 - 6305: 0.3 keV

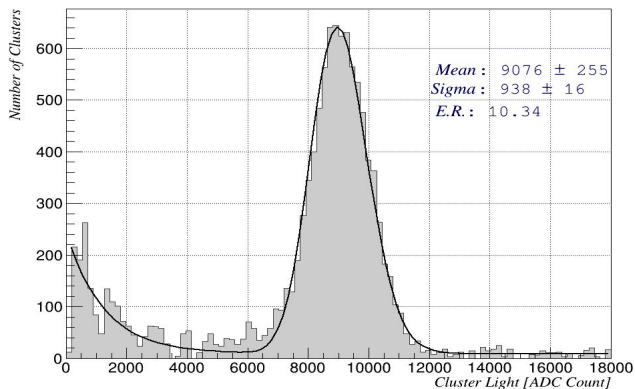


# Orca Fusion

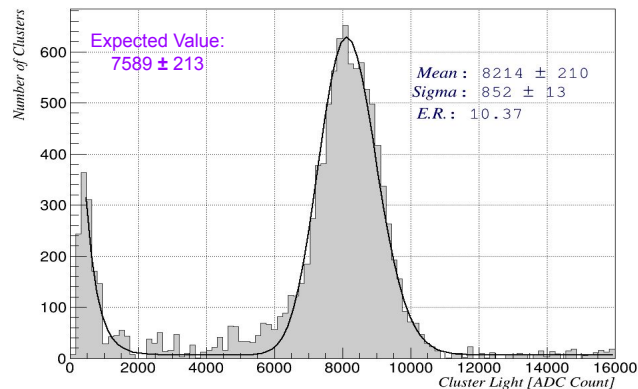


# Orca Quest (from 6 to 3 keV)

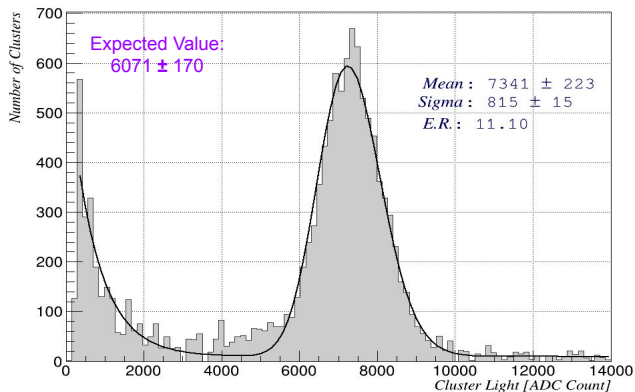
Orca Quest - Difference: 6332 - 6324: 6 keV



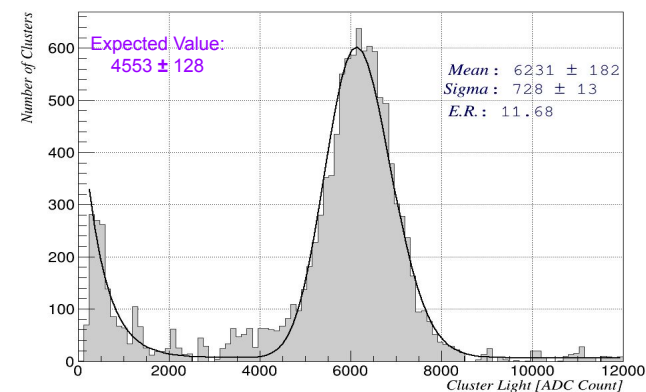
Orca Quest - Difference: 6333 - 6325: 5 keV



Orca Quest - Difference: 6334 - 6326: 4 keV

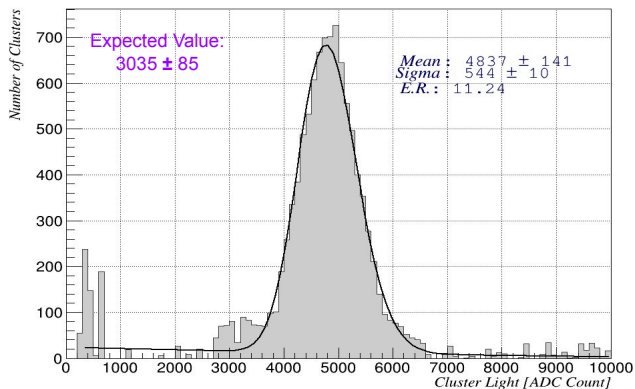


Orca Quest - Difference: 6335 - 6327: 3 keV

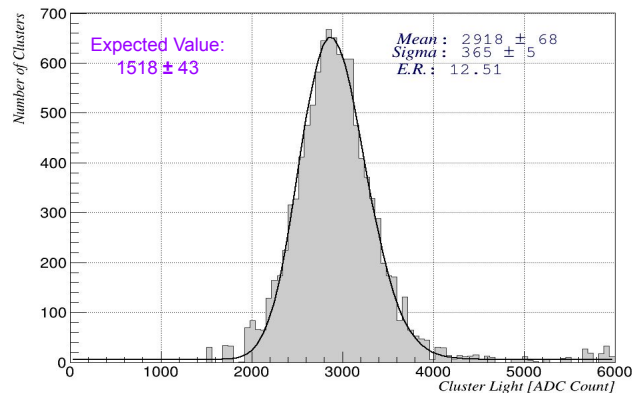


# Orca Quest (from 2 to 0.3 keV)

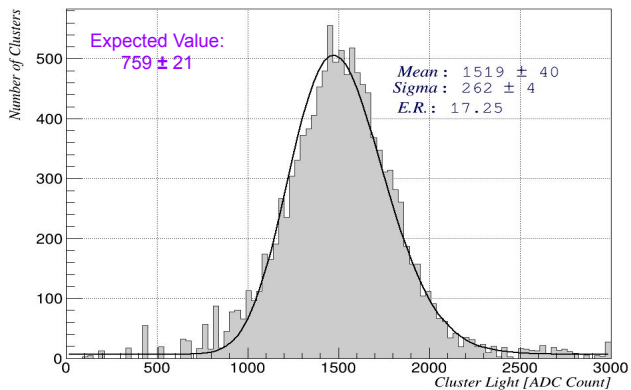
Orca Quest - Difference: 6336 - 6328: 2 keV



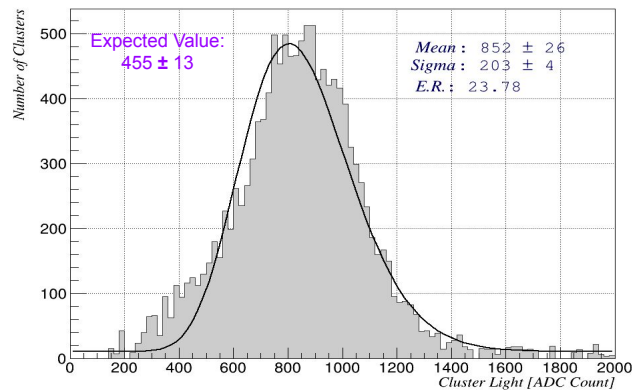
Orca Quest - Difference: 6337 - 6329: 1 keV



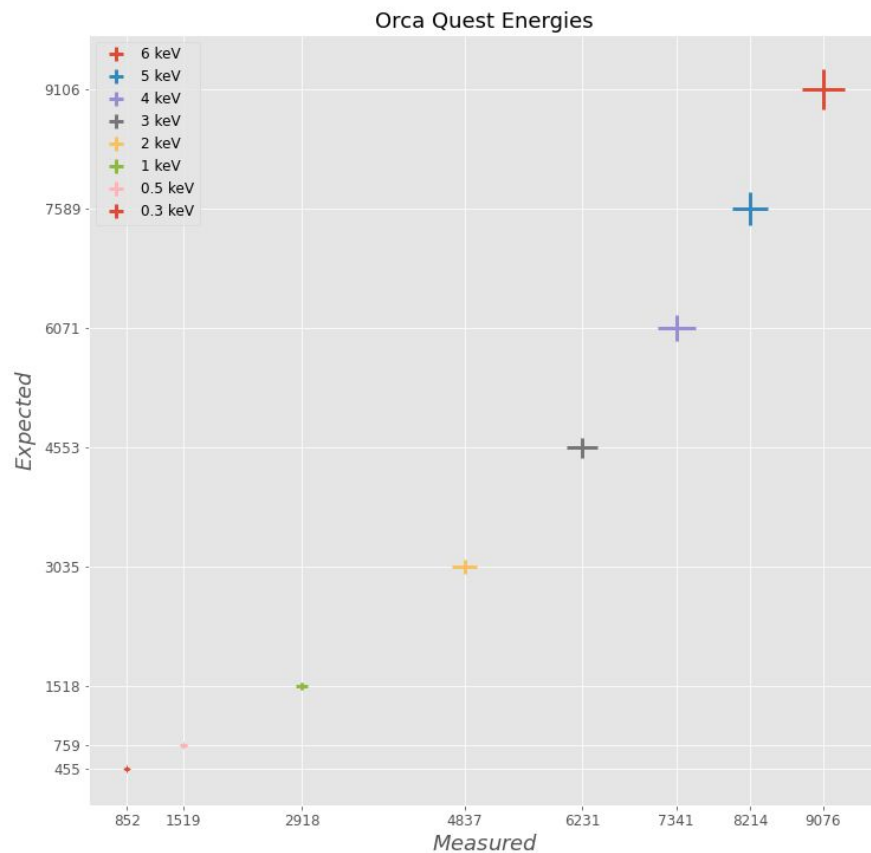
Orca Quest - Difference: 6338 - 6330: 0.5 keV



Orca Quest - Difference: 6339 - 6331: 0.3 keV

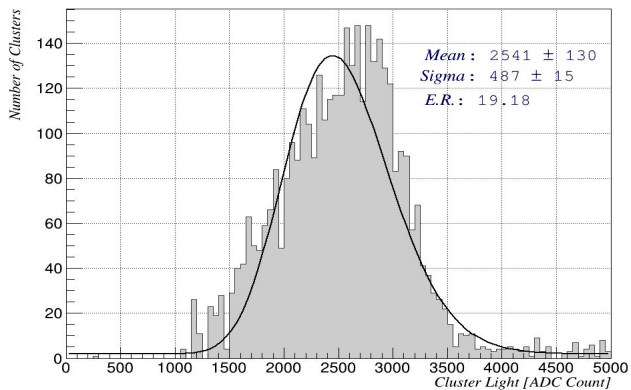


# Orca Quest

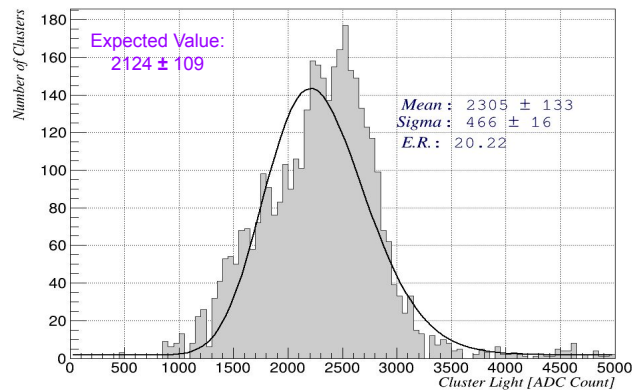


# Thorit (from 6 to 3 keV)

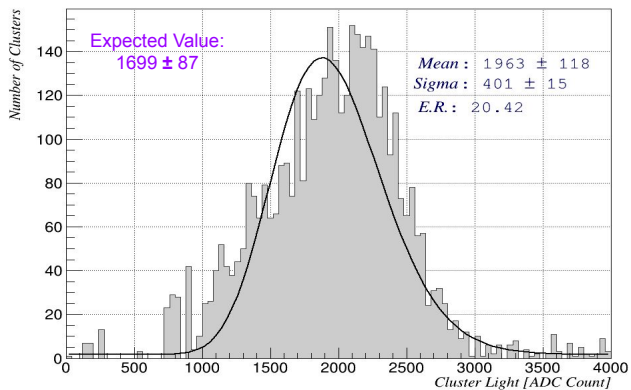
Thorit - Difference: 6355 - 6347: 6 keV



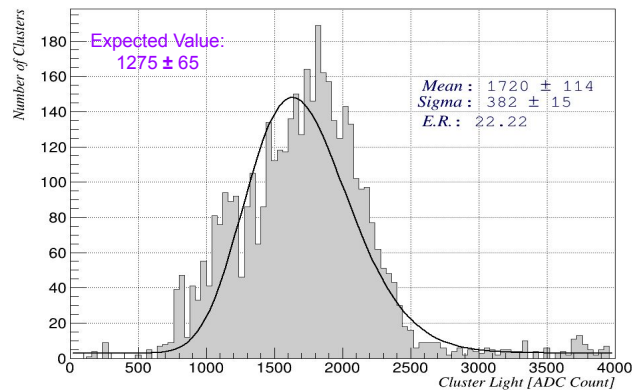
Thorit - Difference: 6356 - 6348: 5 keV



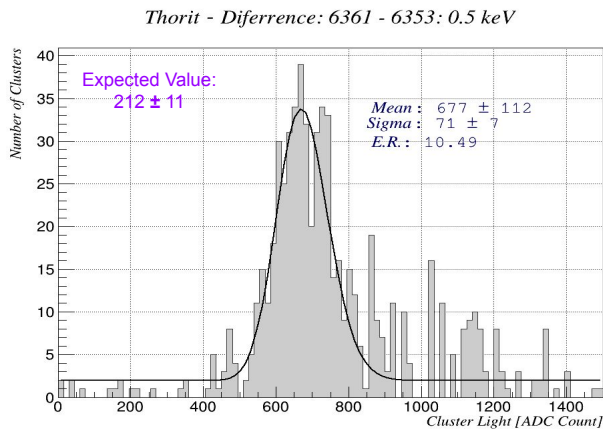
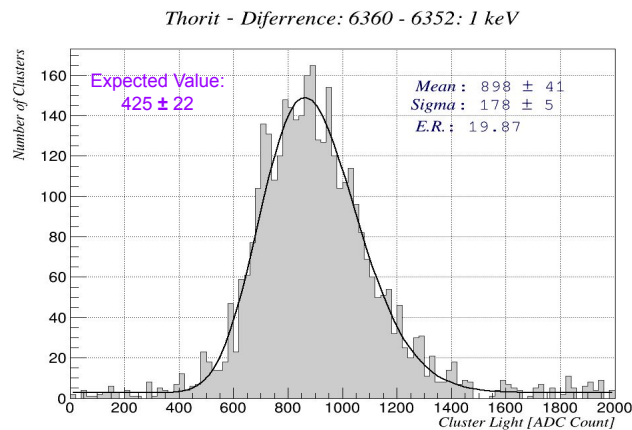
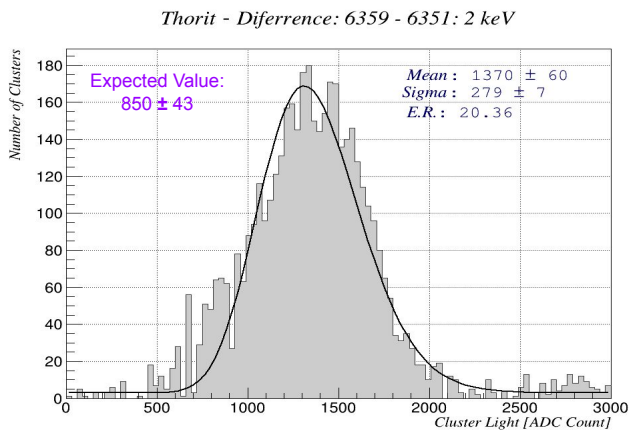
Thorit - Difference: 6357 - 6349: 4 keV



Thorit - Difference: 6358 - 6350: 3 keV

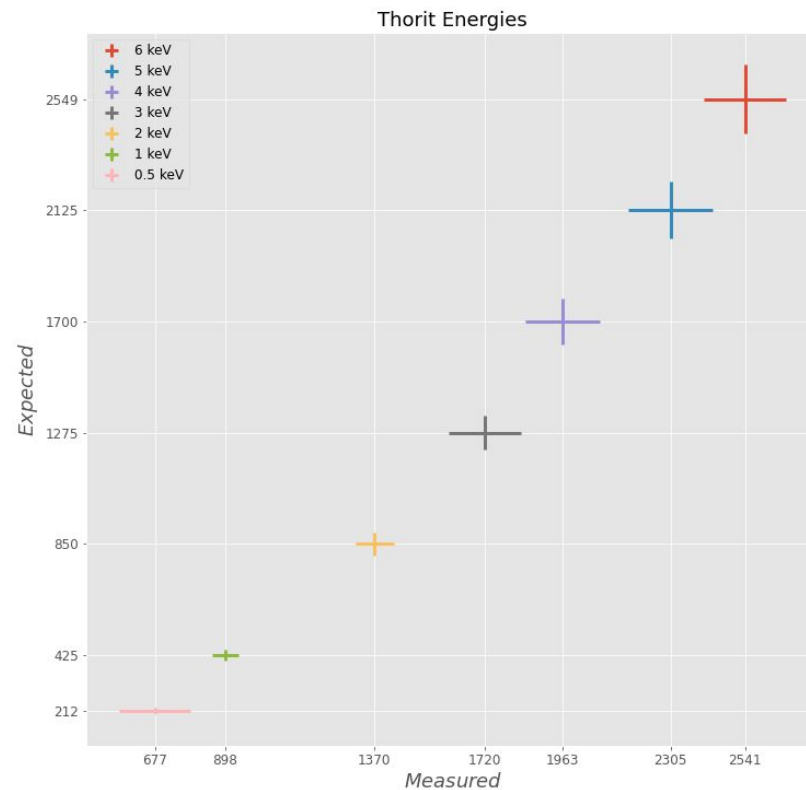


# Thorit (from 2 to 0.3 keV)



R.I.P. 6354

# Thorit



# Conclusions

The analysis is the conclusion by it self.

The results was not linear as I expected.

## Next steps

Try to determine the Energy Detection Efficiency for Low Energies.

My mind is open

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**THANK YOU**

**GRACIAS**

**ARIGATO**

**SHUKURIA**

**GOZAIMASHITA**

**EFCHARISTO**

**JUSPAXAR**

**DANKSCHEEN**

**TASHAKKUR ATU**

**YAQHANYELAY**

**SUKSAMA**

**EKHMET**

**MEHRBANI**

**GRAZIE**

**MAAKE**

**KOMAPSUMNIDA**

**SHUKRIA**

**BIYAN**

**SHUKRIA**

**BOLZİN**

**MERCI**

**TINGKI**

**SPASIBO**

**SHACHALHUYA**

**CHALTU**

**WABEEJA**

**MAITEKA**

**HUI**

**YUSPAGARATAM**

**ATTO**

**AMSHA**

**SPASIBO**

**DENKAUJA**

**NENACHALHYA**

**UNHALCHESH**

**HATUR**

**GLH**

**EKOJU**

**SIKOMO**

**MAKETAI**

**MINMONCHAR**

**BAIHA**

**TAVTAPUCH**

**MEDAHAGSE**

**SAUKO**

**MERASTANHY**

**GAEJTHO**

**AGUYJE**

**FAKAAGE**

**LAH**

**PALDIES**