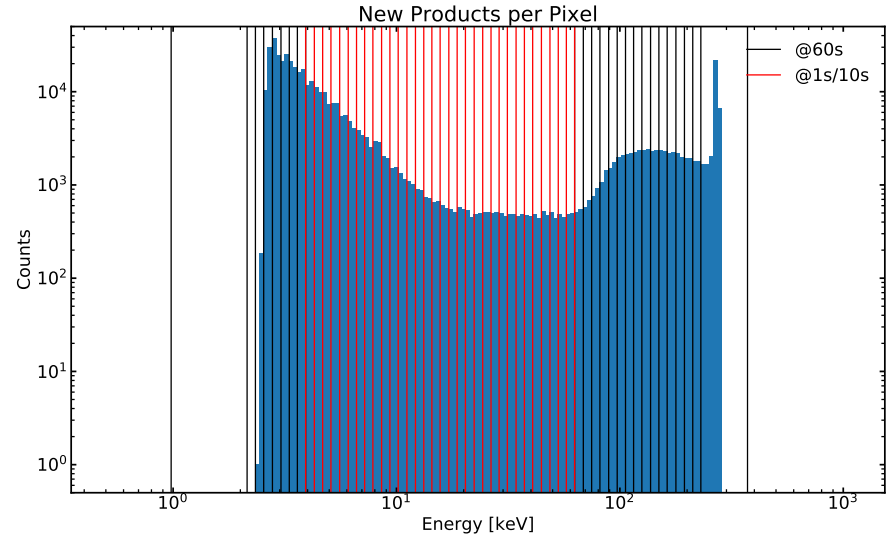
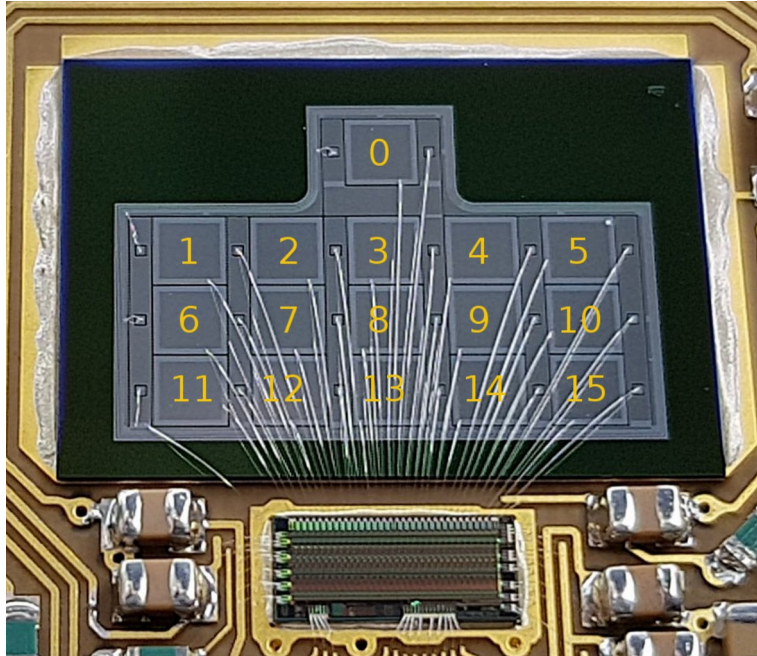


New Data Products



Main Product:

Energy range: 3.92 keV – 62.72 keV, 8 bins per octave
Cadence : 1s (normal), 10s (low telemetry)
Mean telemetry : ~ 1.1 kbits/s, ~ 0.35 kbits/s

Aux Product:

Energy range: 0.98 keV – 3.92 keV +
62.72 keV – 372.736 keV (INF)
8 bins per octave
Cadence : 60s (normal, low telemetry)
Mean telemetry : < 0.05 kbits/s

IDefX

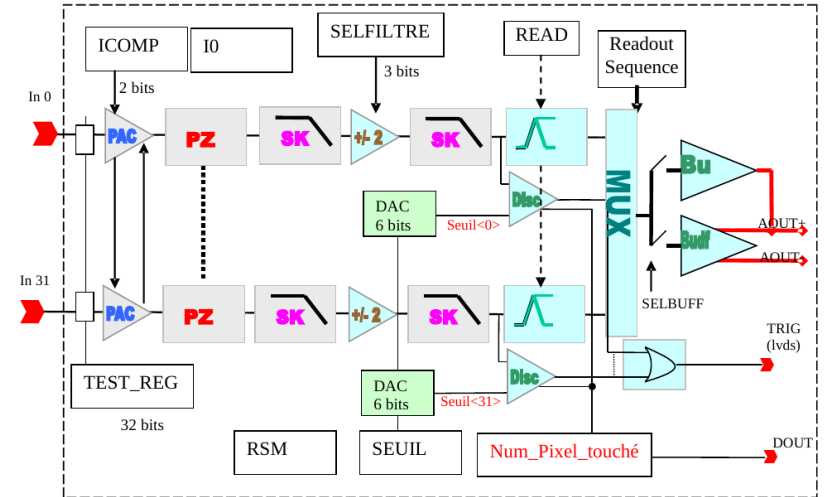
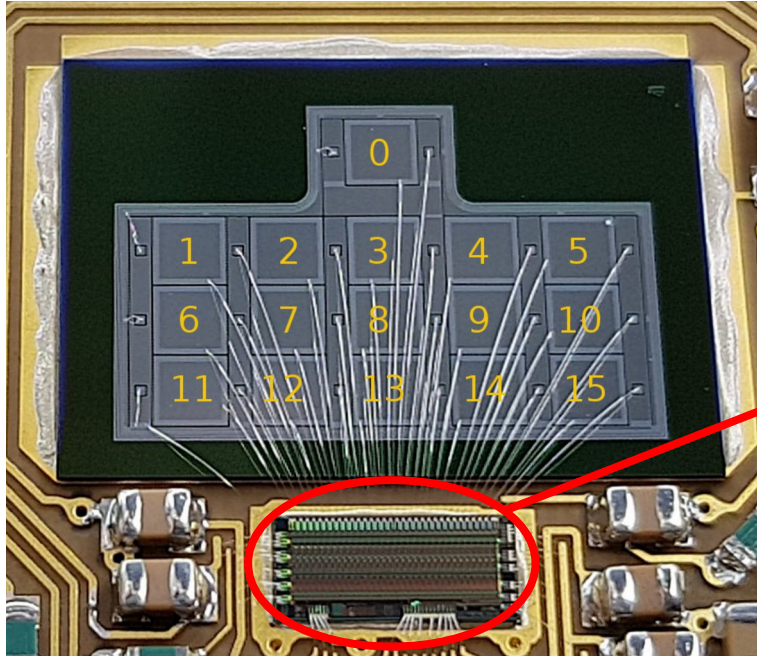


Figure IDefX BD chip block diagram.

Ghost Counts ↔ Shaper Overshoot

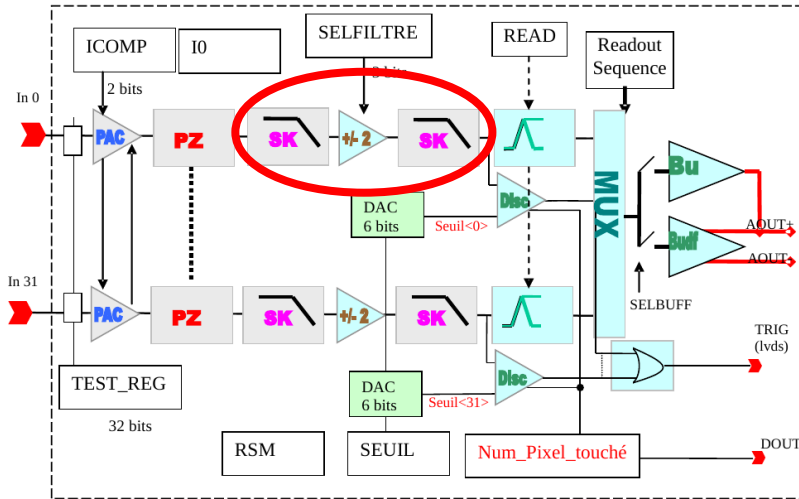
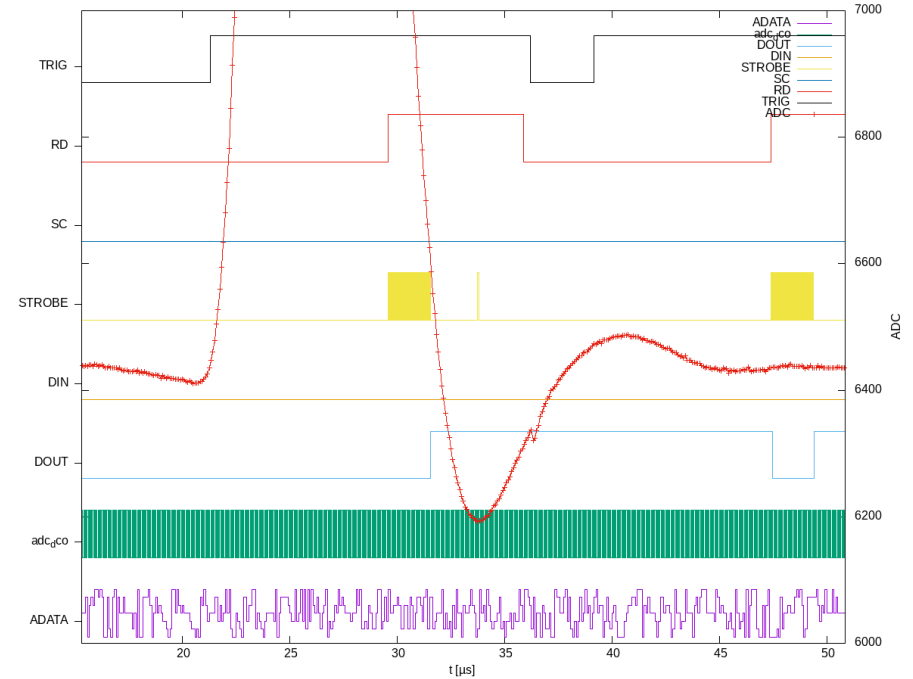


Figure IDefX BD chip block diagram.



Solutions :

1. Increase acquisition time
2. Decrease shaping time

Acquisition Time → Changed Calibration

Analog Signal

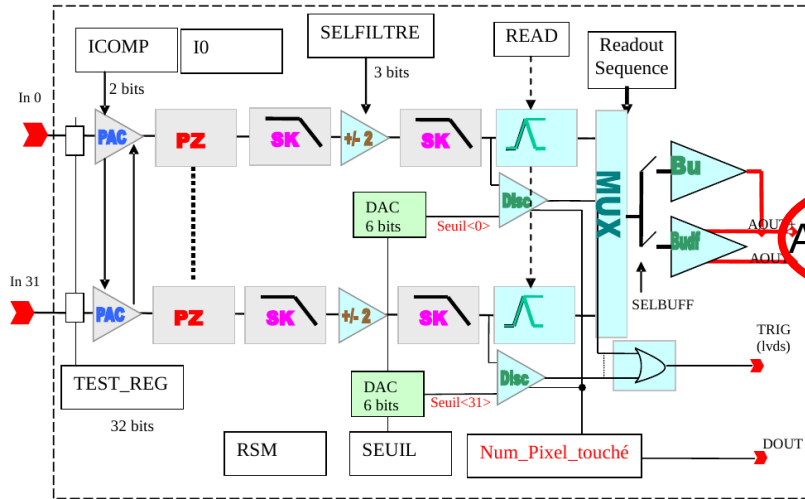
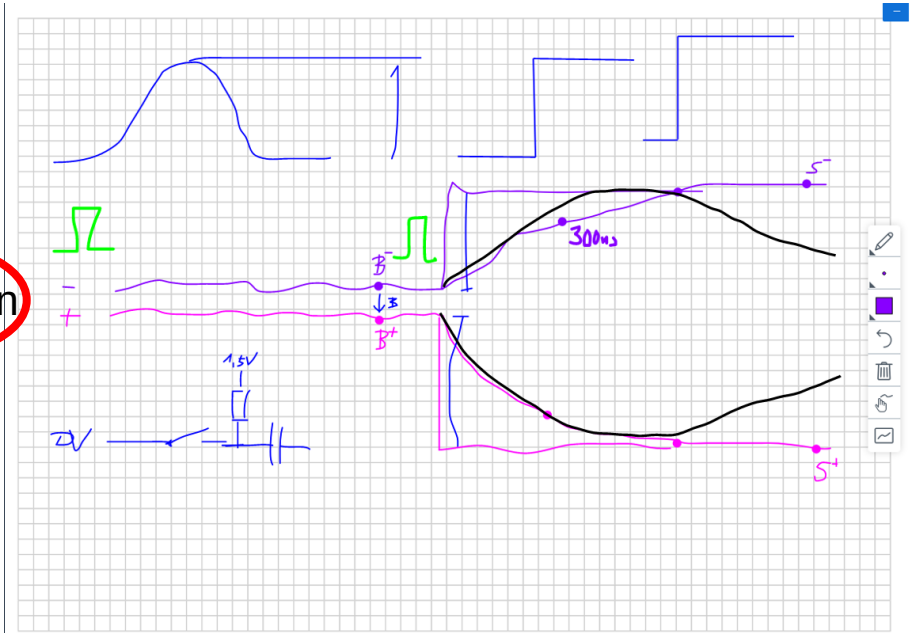


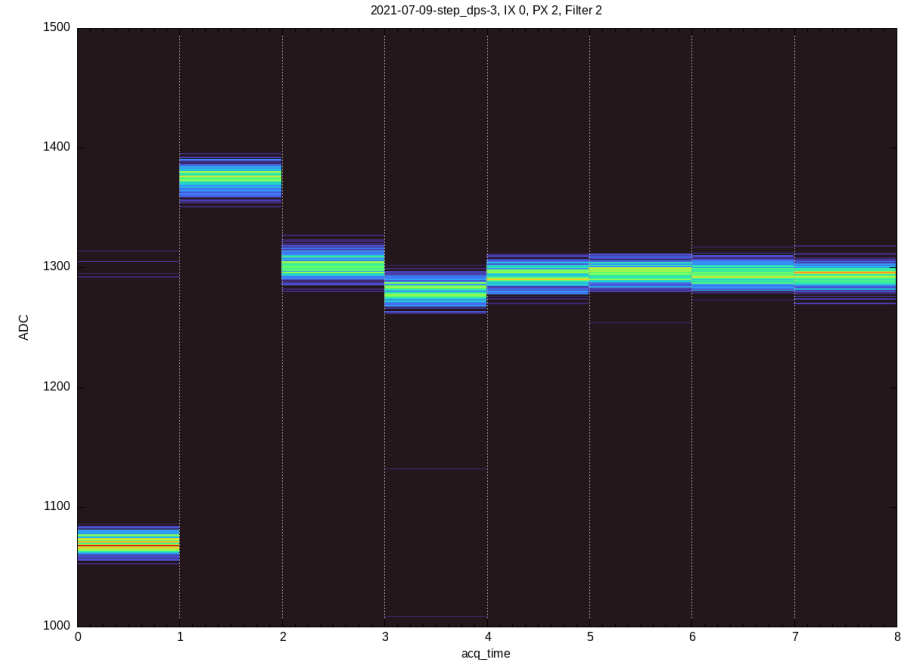
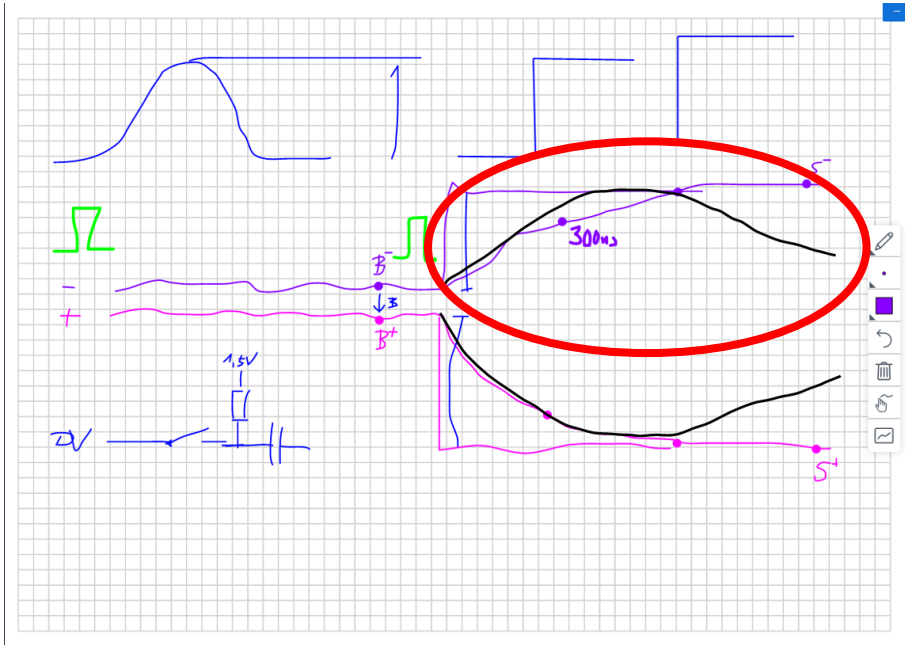
Figure IDefX BD chip block diagram.

Digitisation

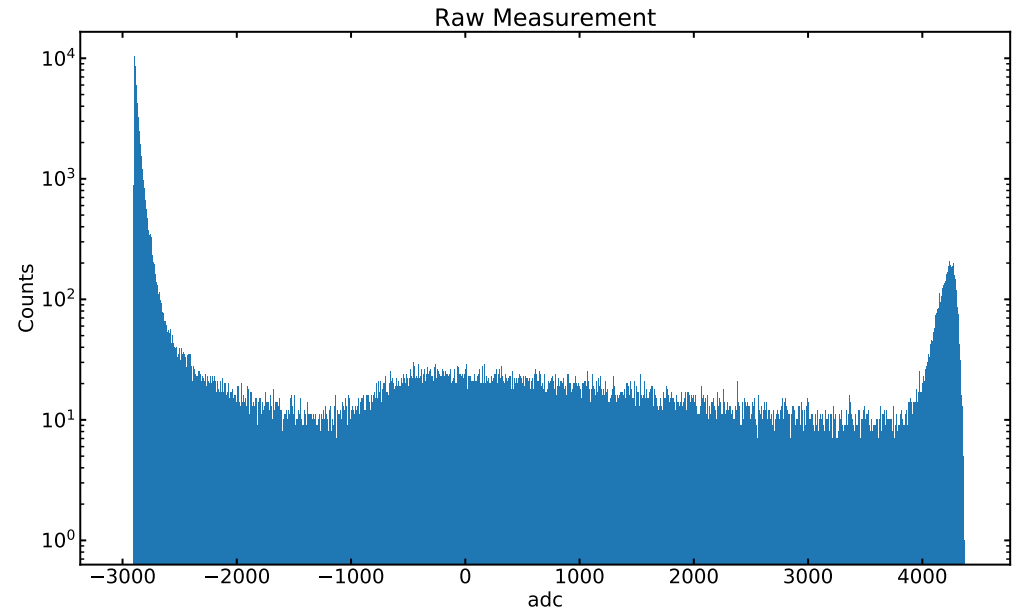
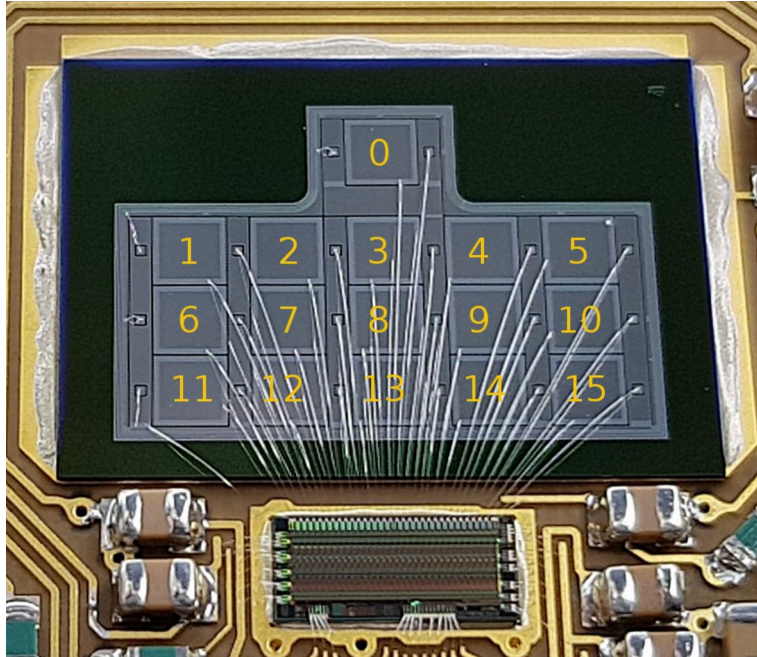


Amplification

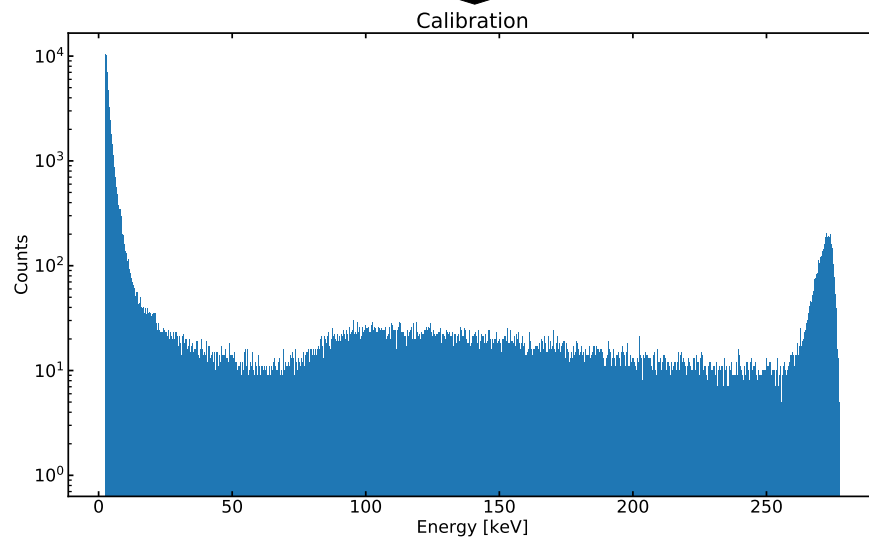
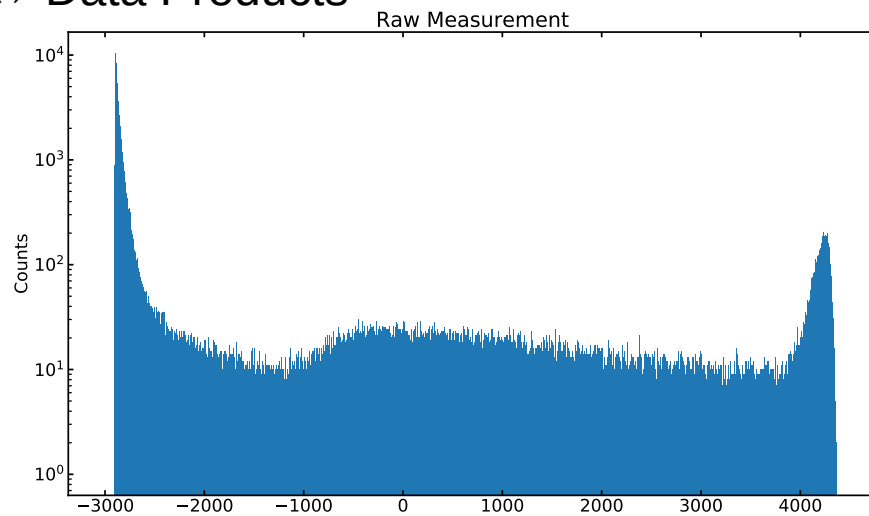
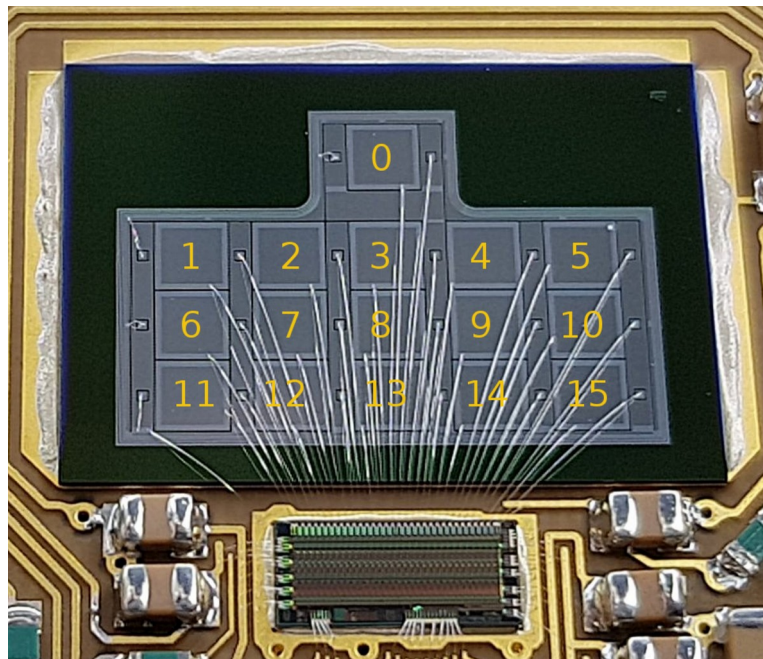
Calibration ↔ Amplification Overshoot



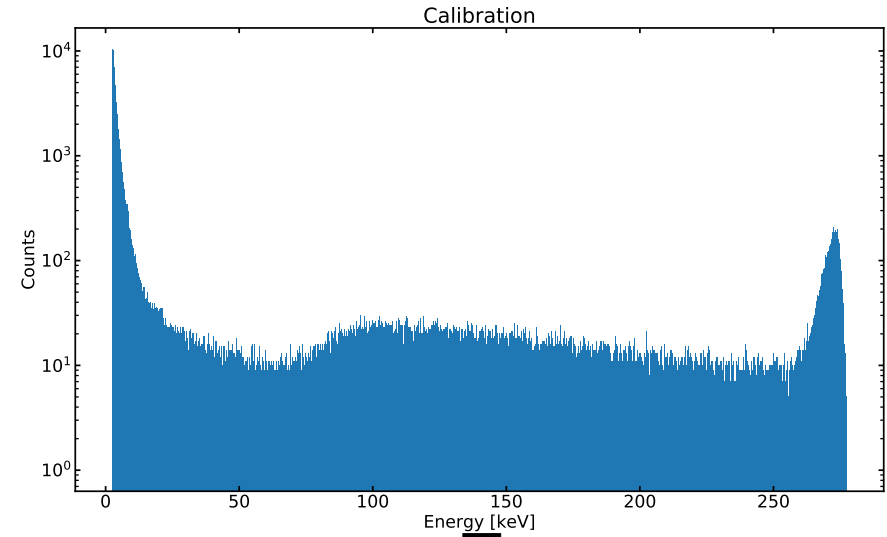
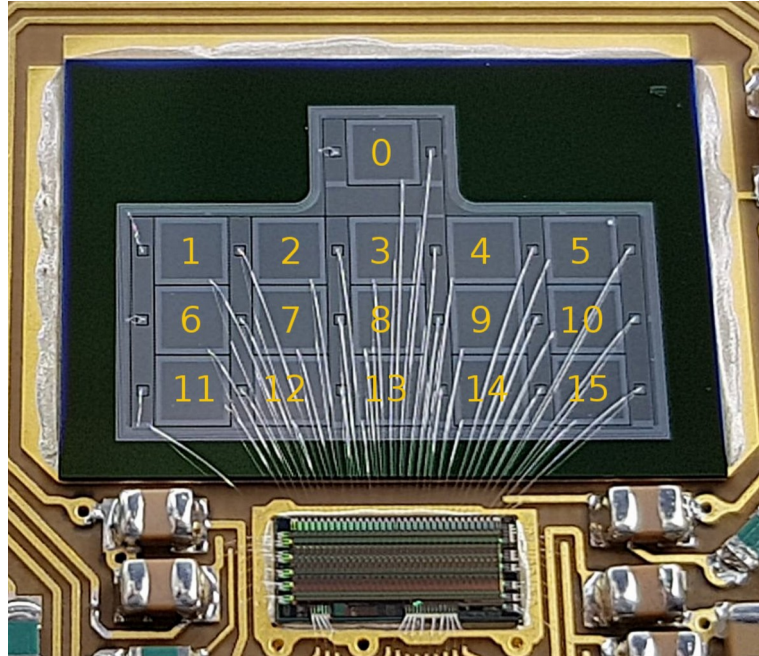
Measurement $\leftrightarrow$ Data Products



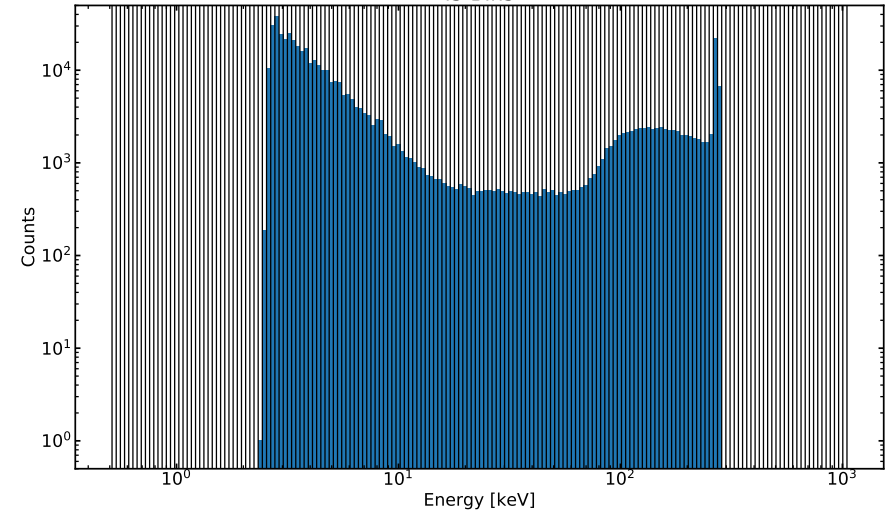
Measurement ↔ Data Products



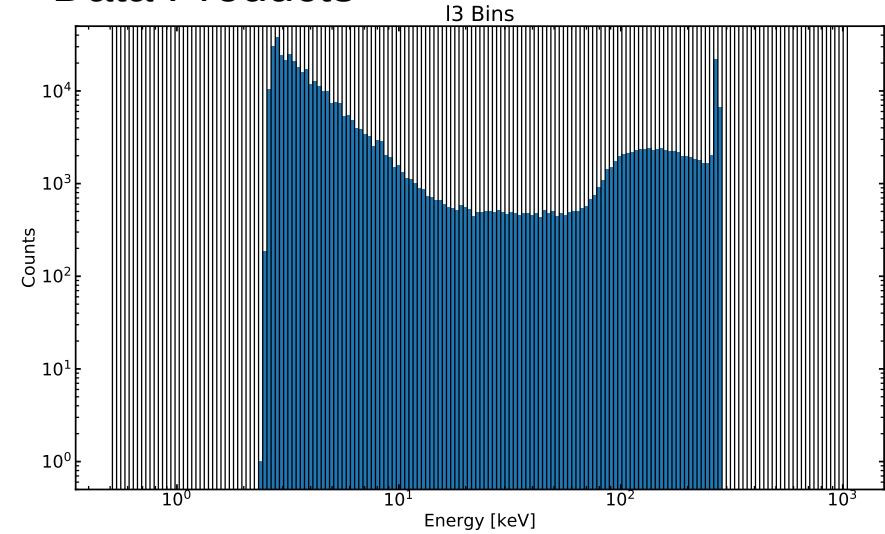
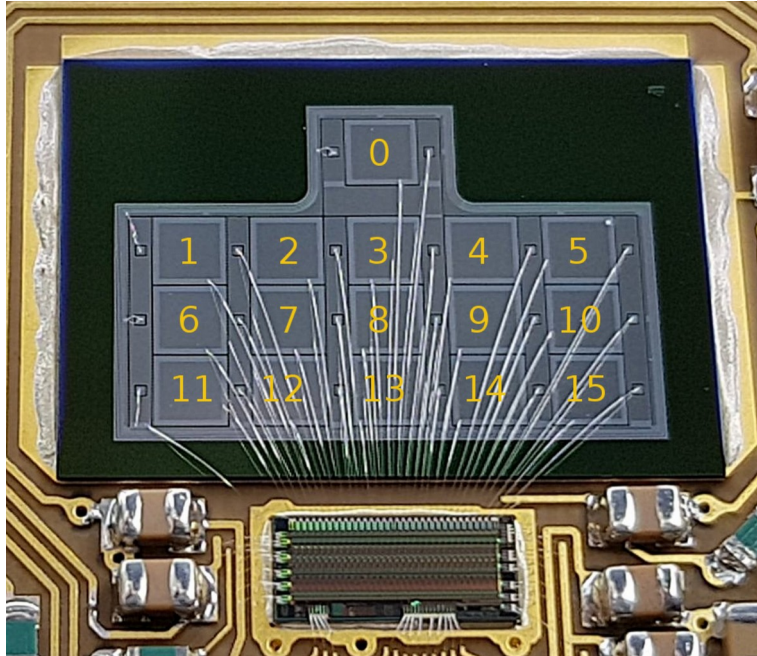
Measurement $\leftrightarrow$ Data Products



13 Bins



Measurement $\leftrightarrow$ Data Products



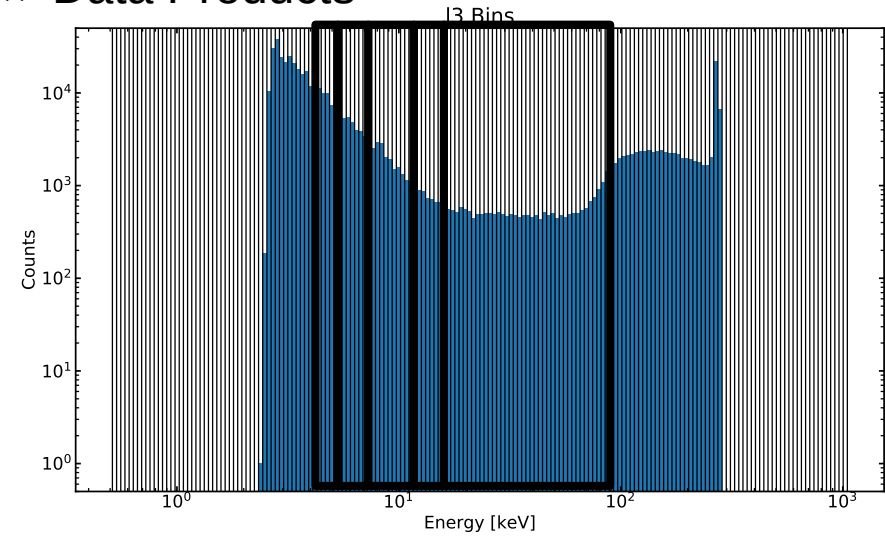
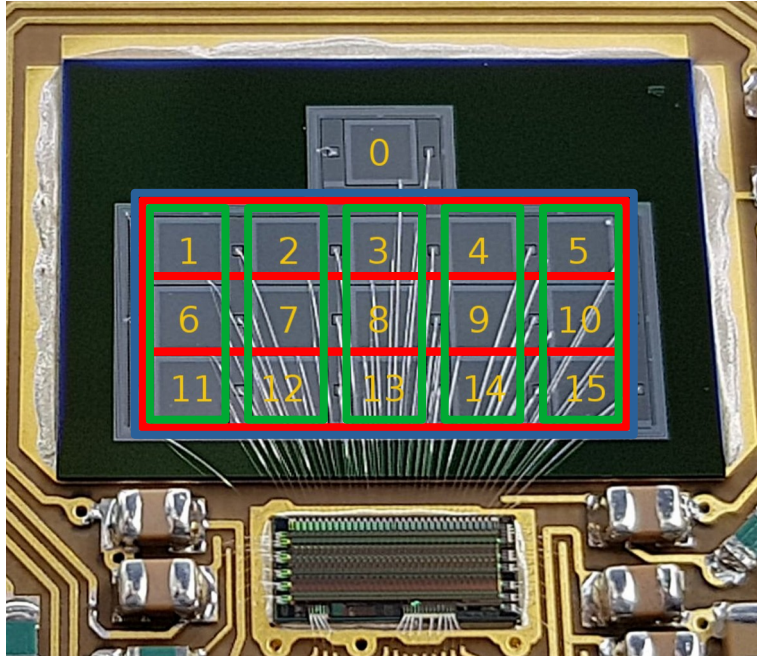
Data Products

A data product is a set of data items.

A data item is the sum over

- a number of 13 bins
- a number of pixels
- a number of seconds

Measurement ↔ Data Products



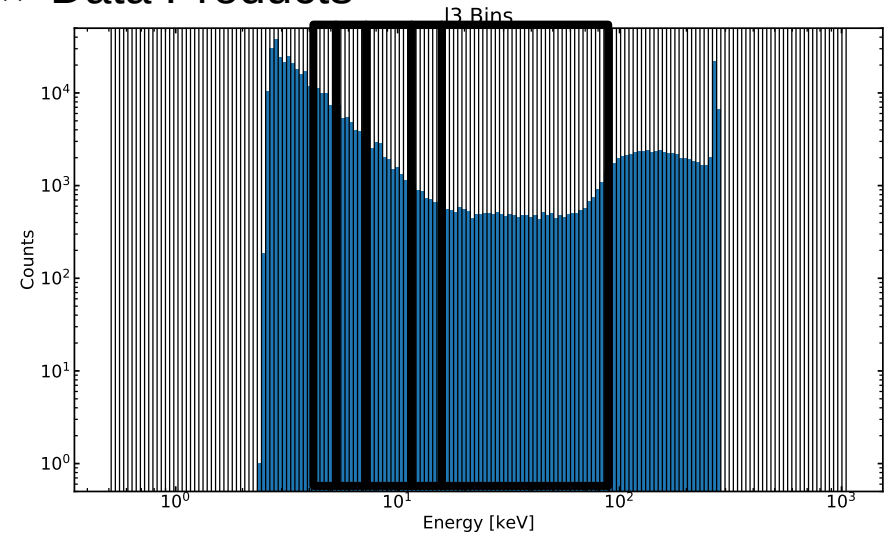
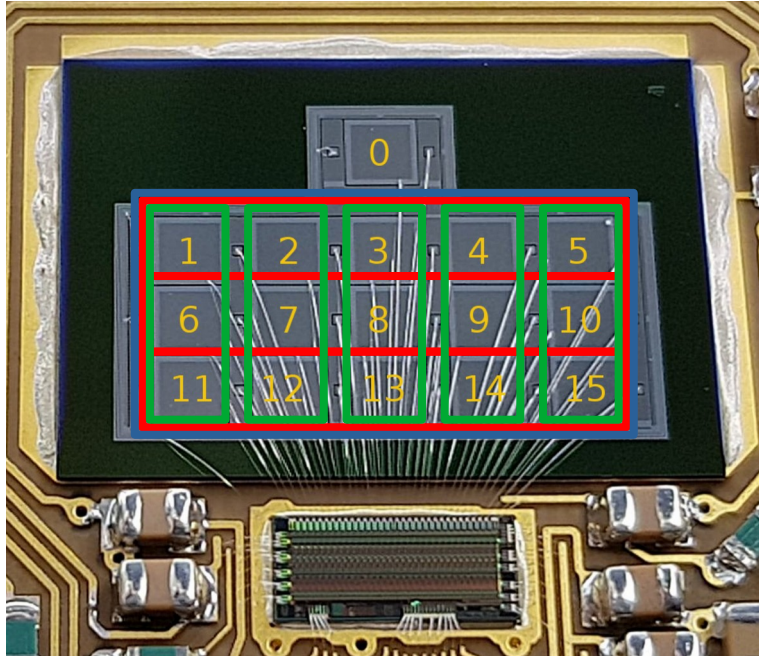
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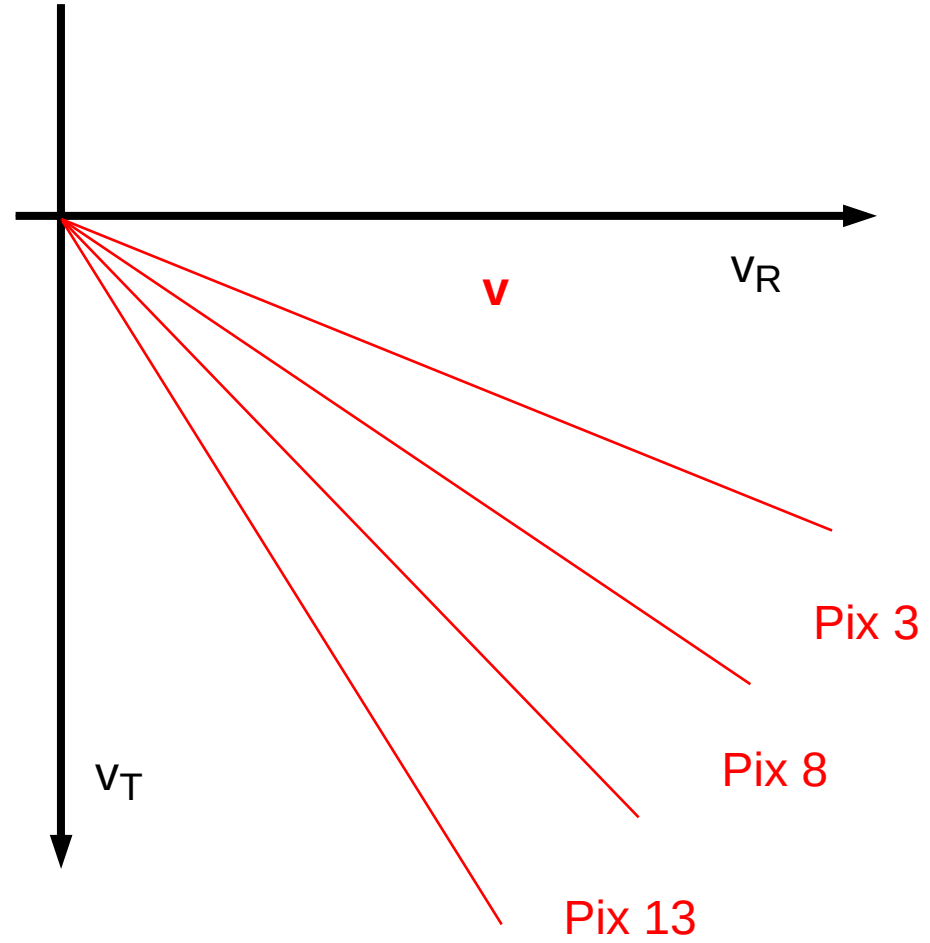
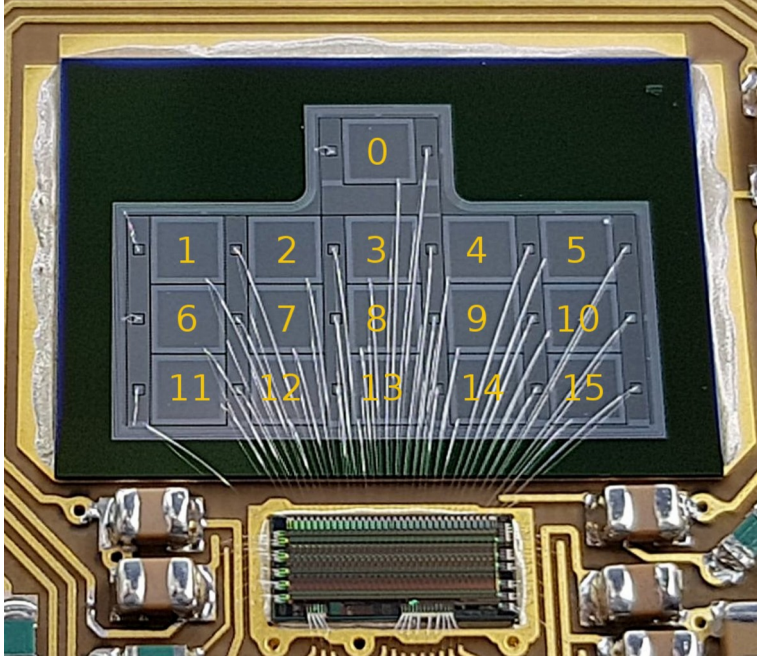
Measurement $\leftrightarrow$ Data Products



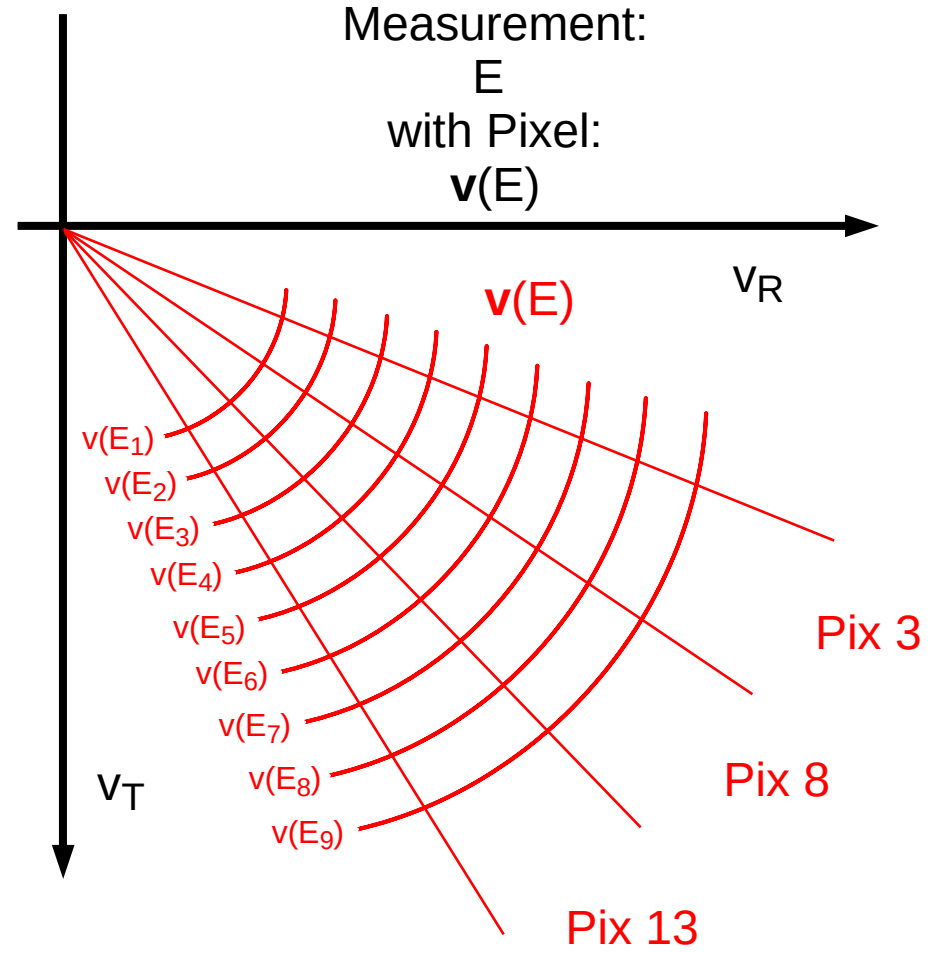
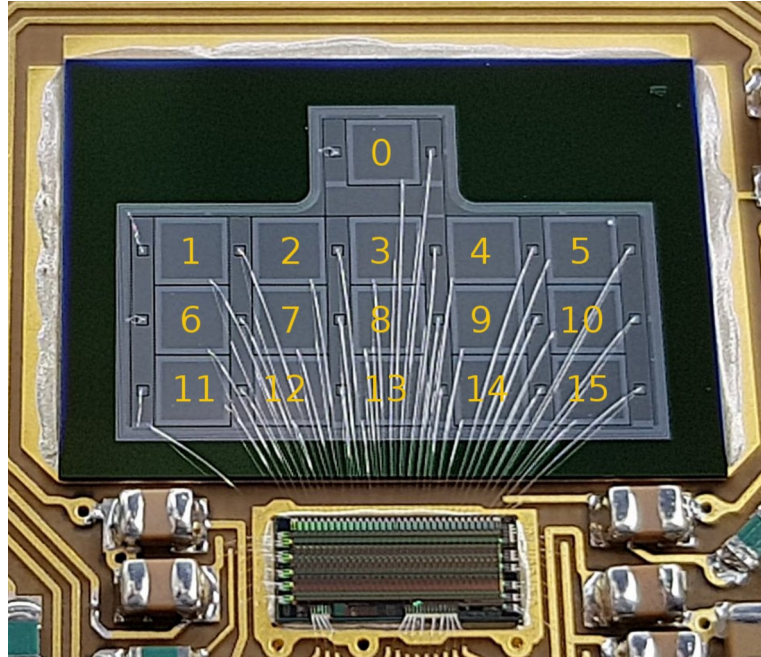
Issues

- strong overlap of data products
- only part of the energy range is covered

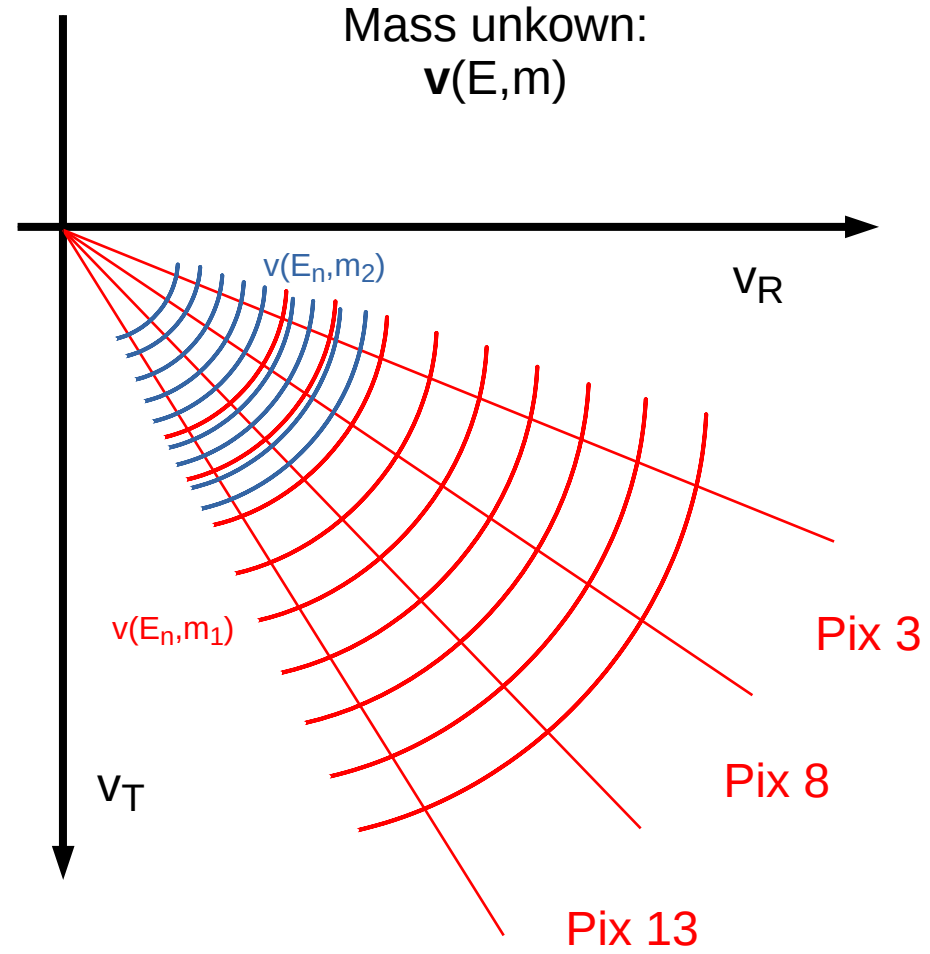
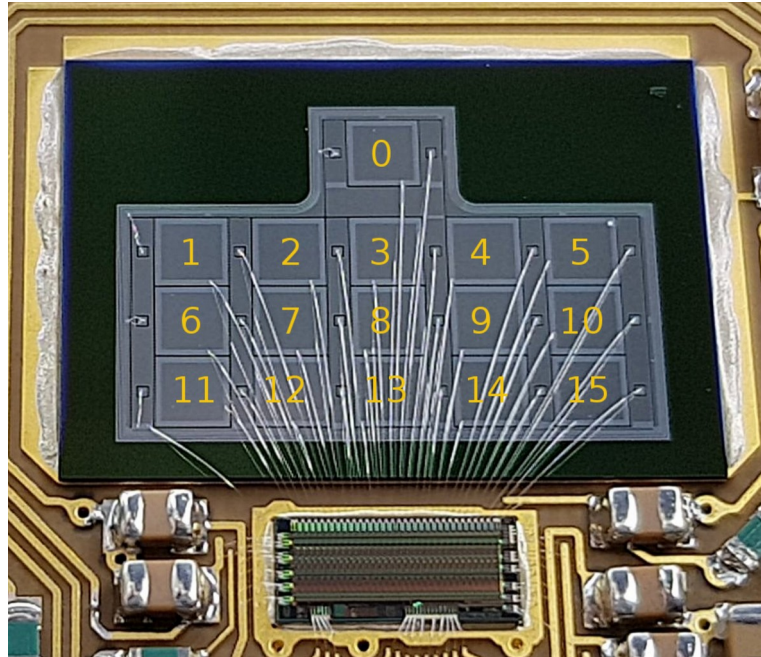
Data Products ↔ Analysis



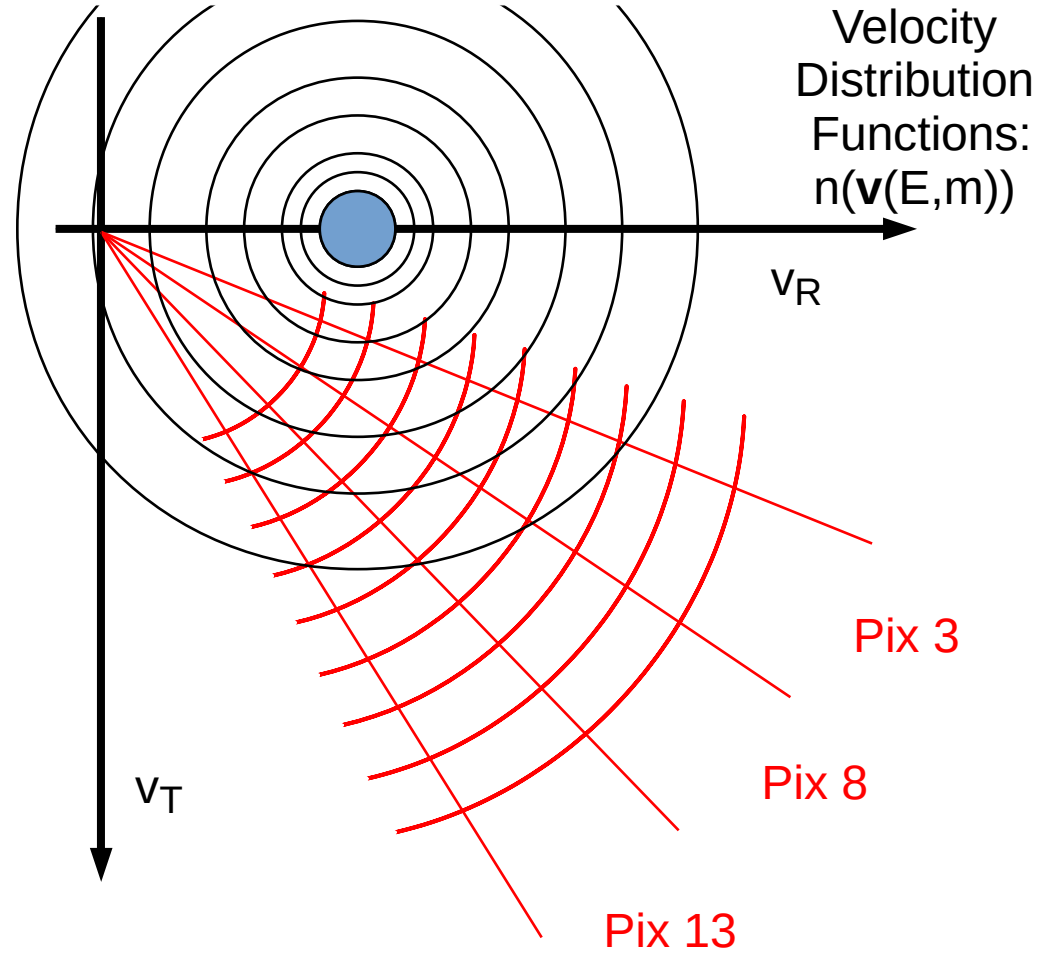
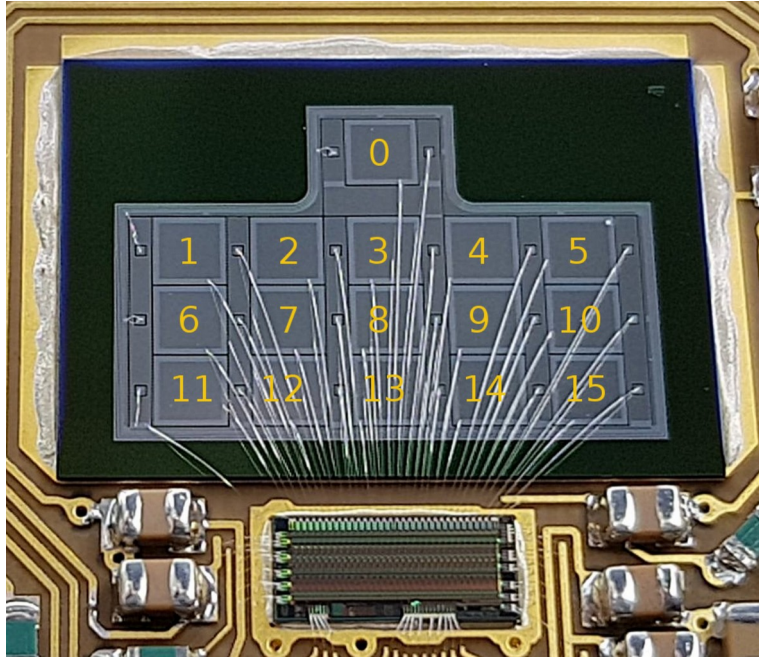
Data Products ↔ Analysis



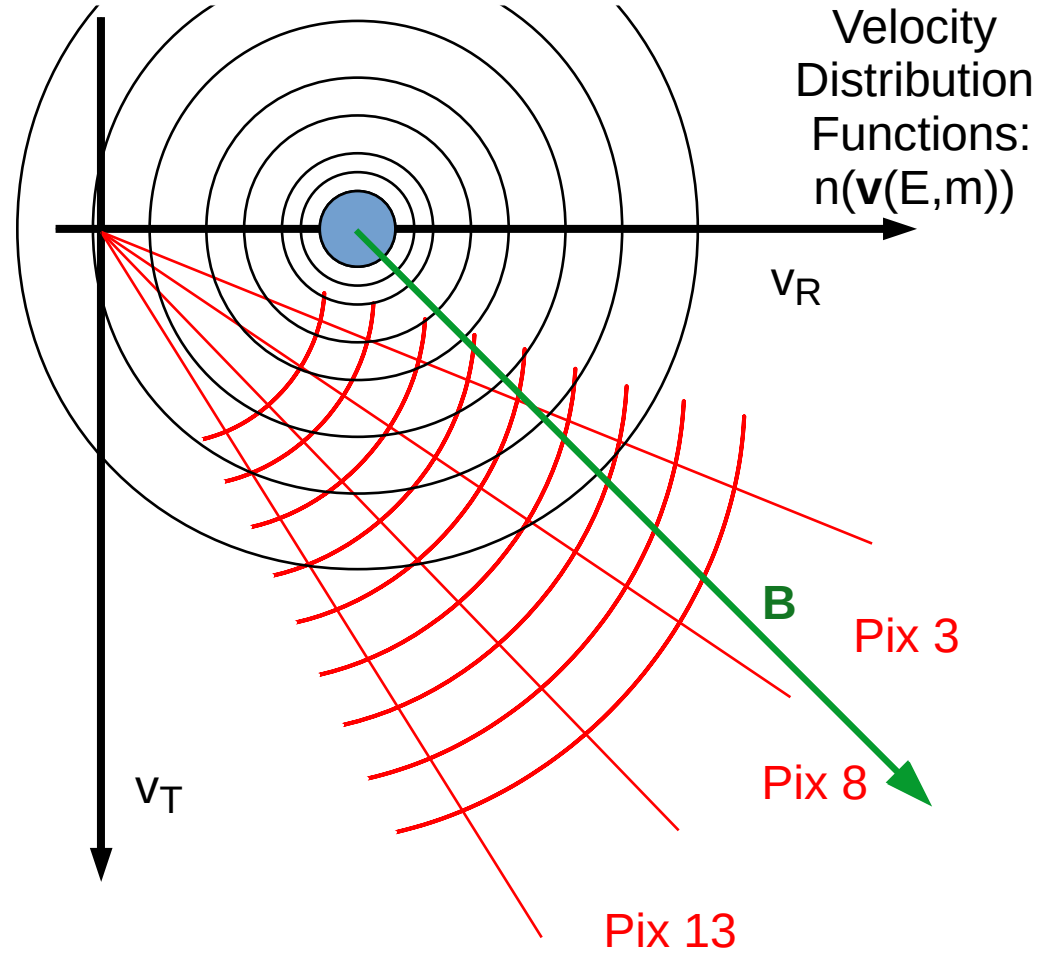
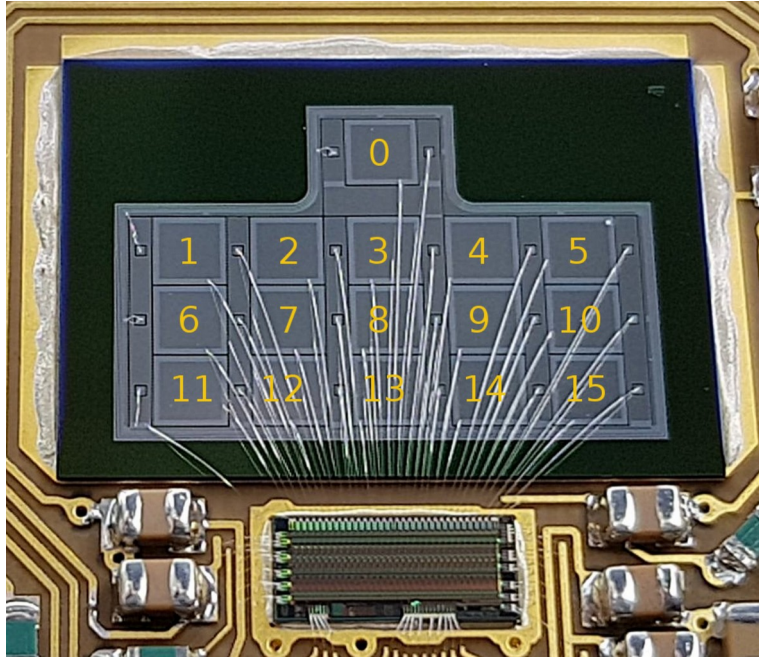
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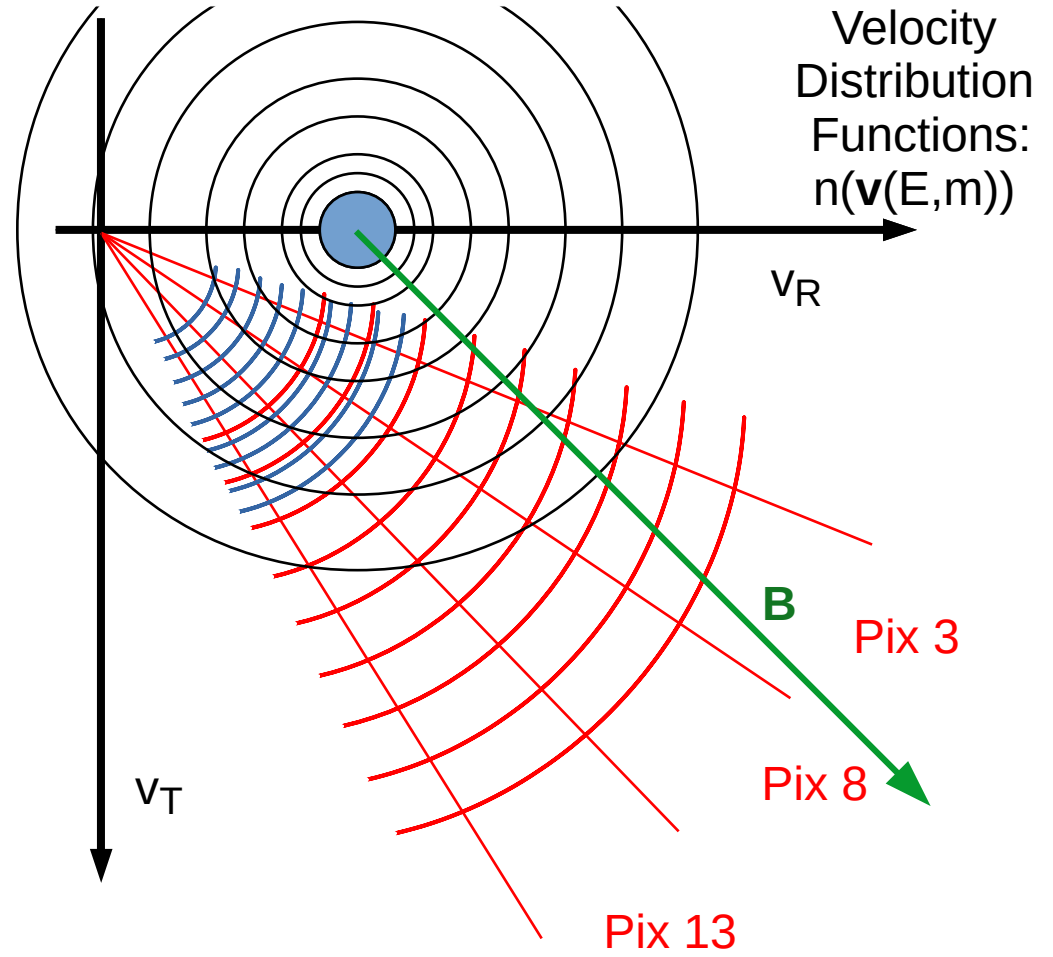
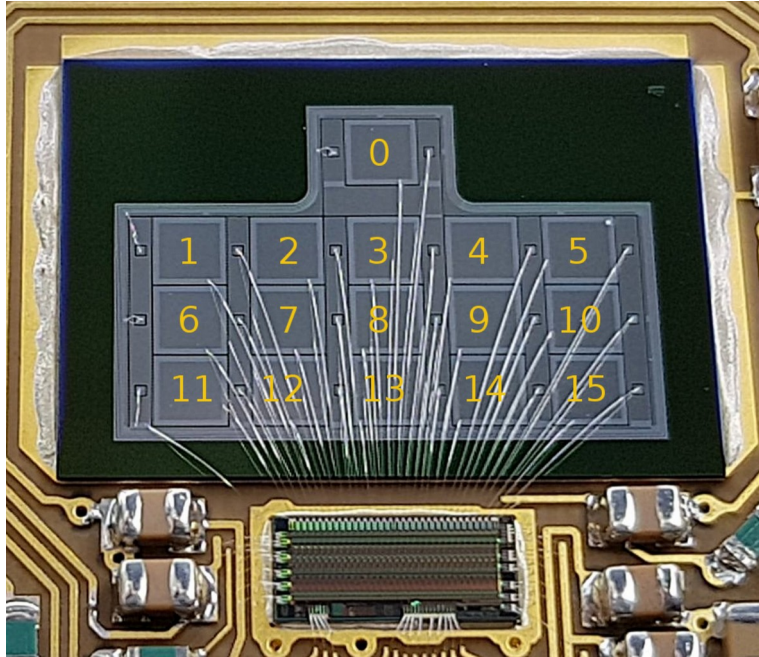
Data Products ↔ Analysis

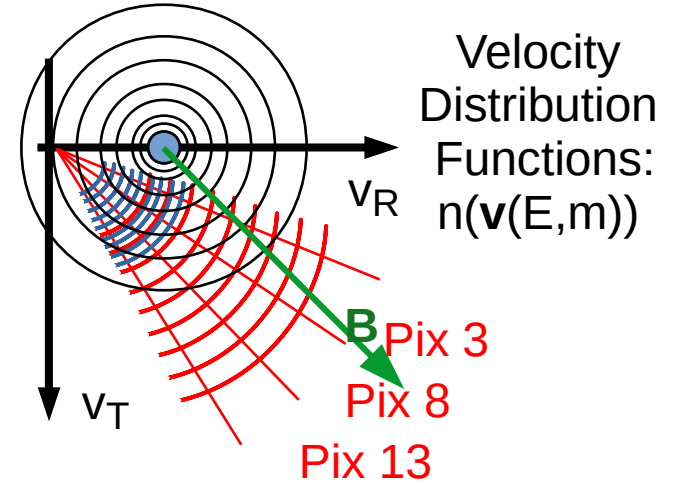
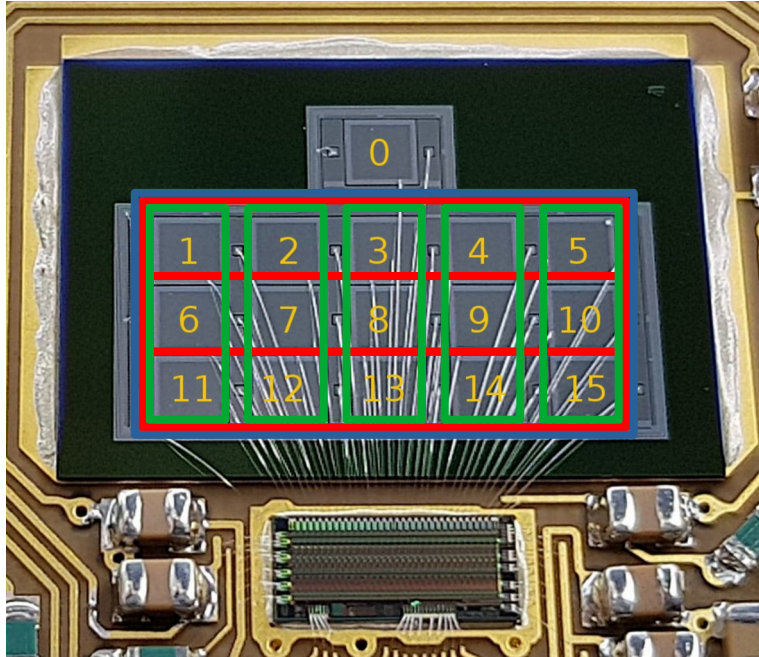


Data Products ↔ Analysis



Data Products ↔ Analysis





Issues

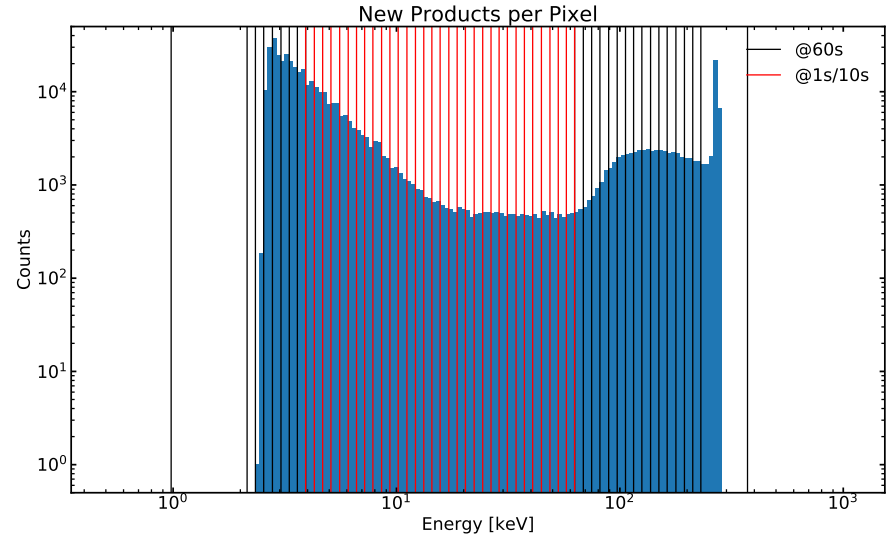
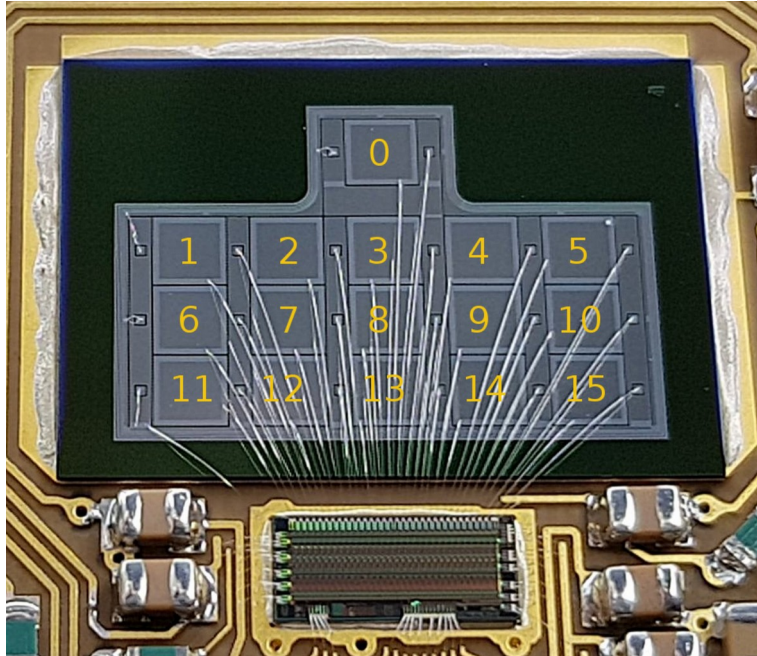
- strong overlap of data products
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Conclusion

- data products should be orthogonal
- whole energy range should be covered

New Data Products



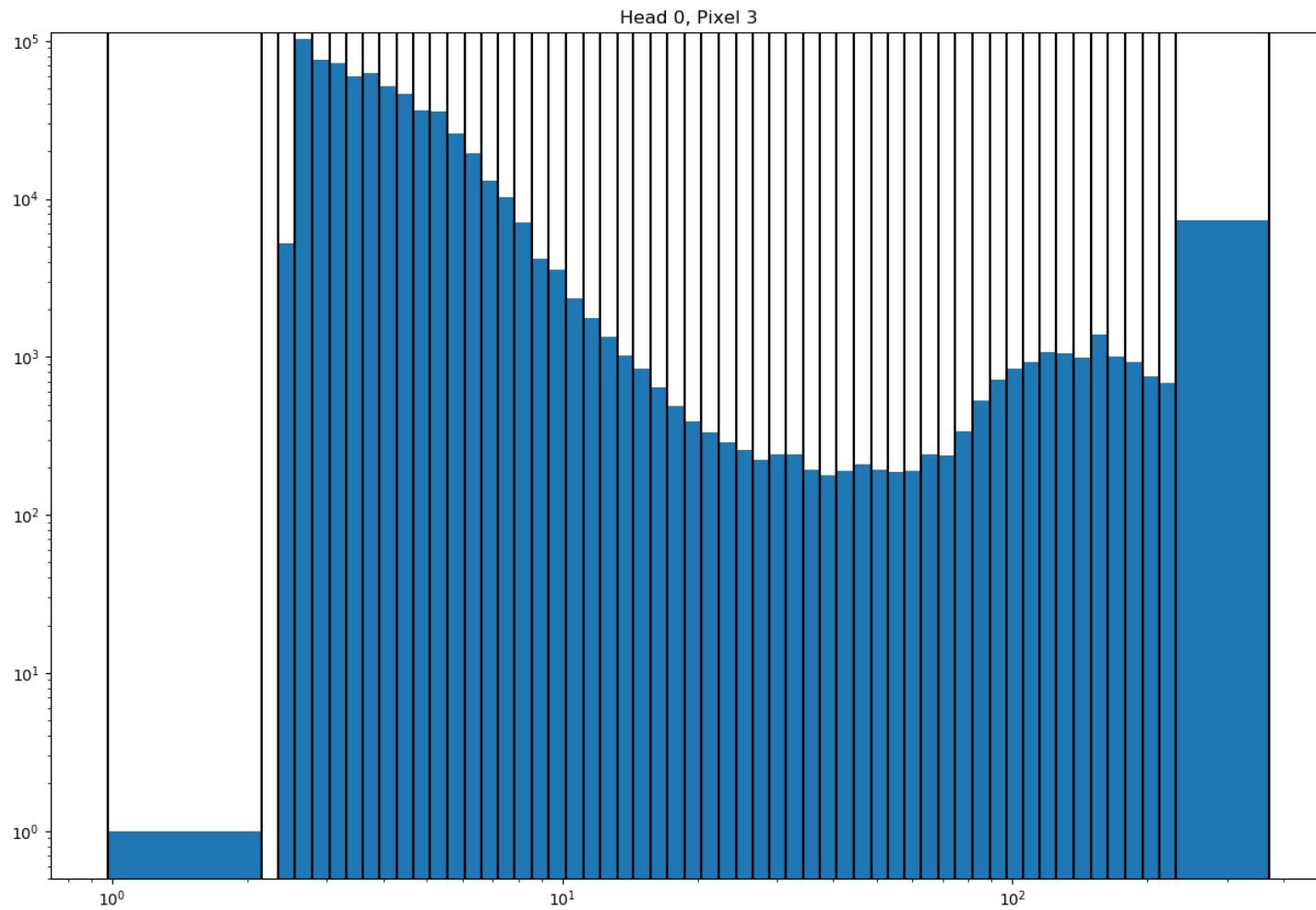
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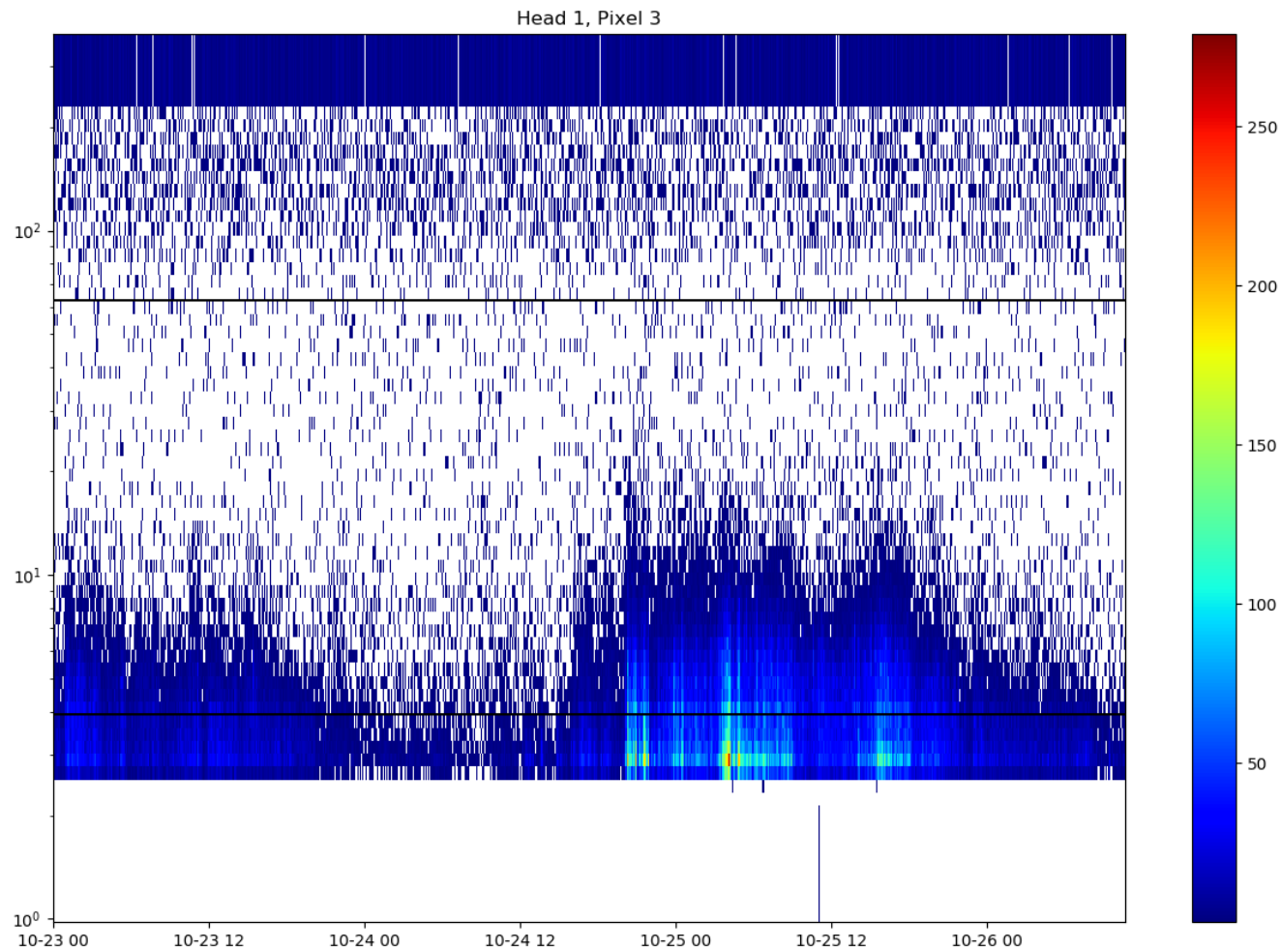
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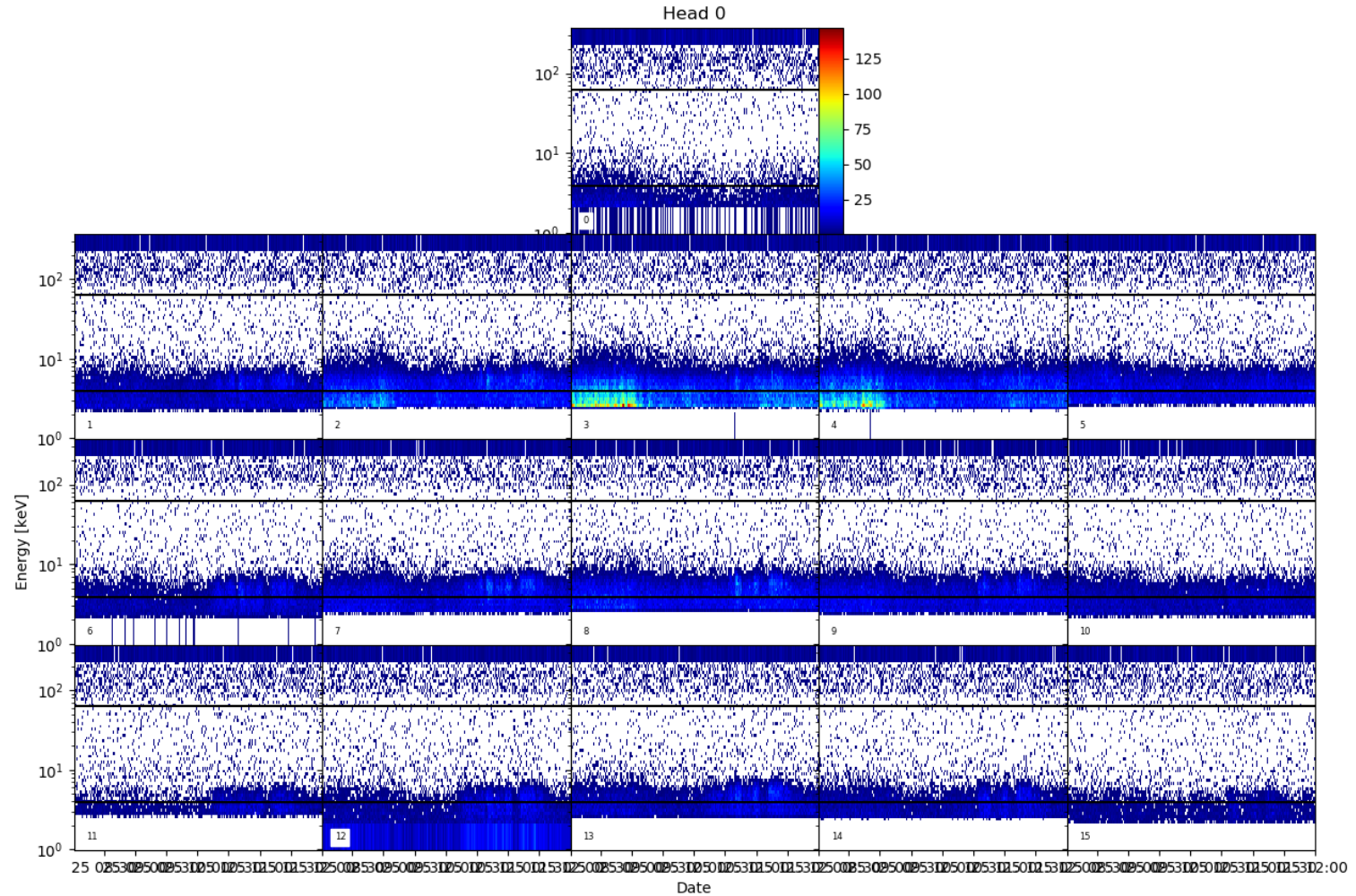
New Data



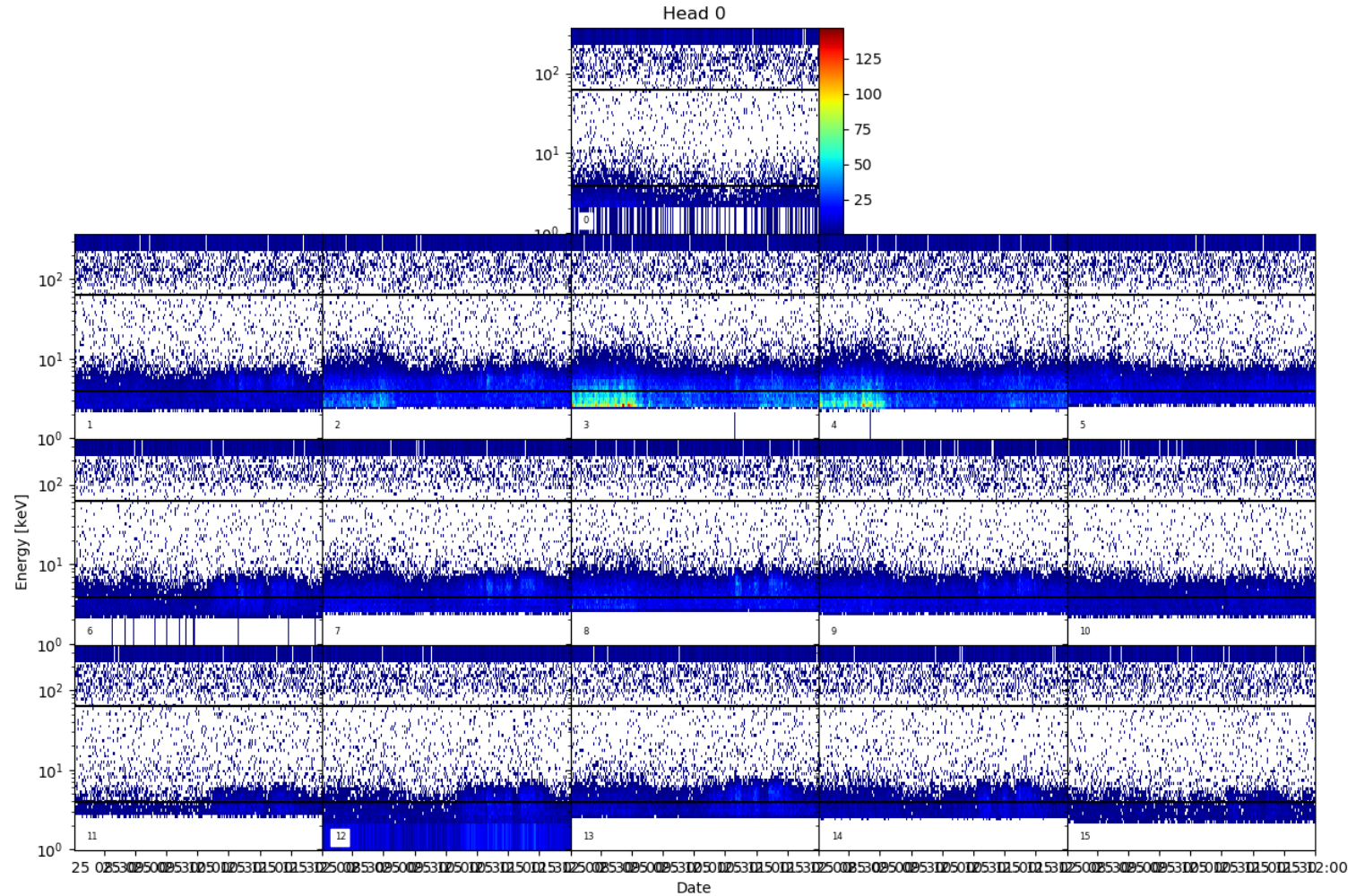
New Data



New Data



New Data



New Data

