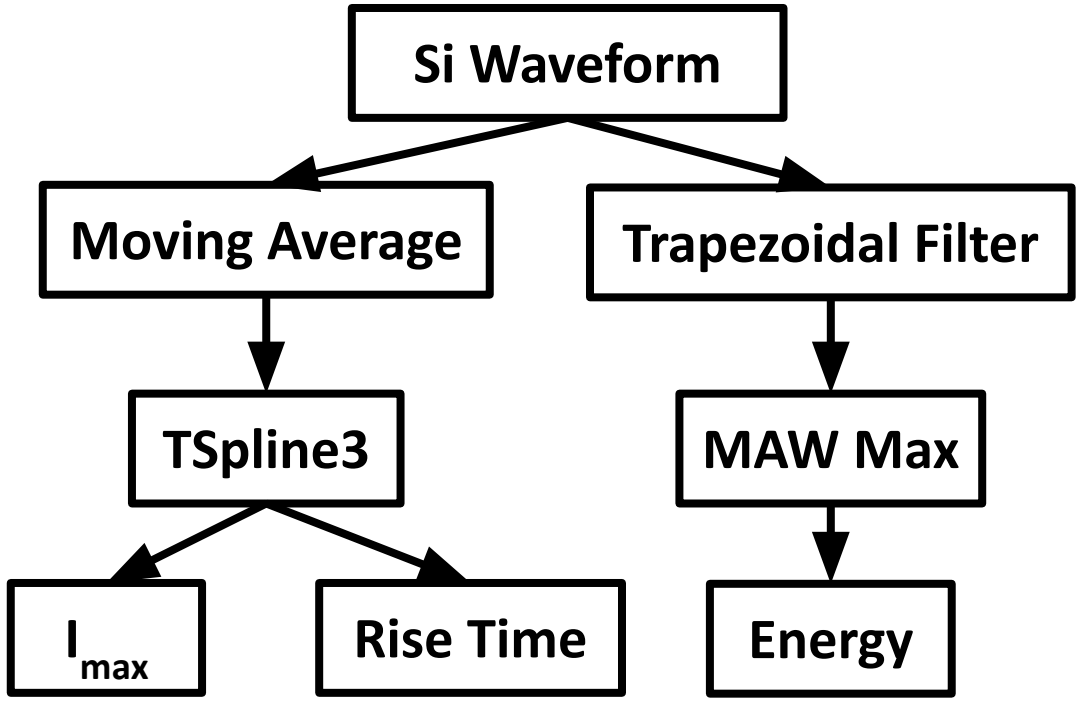
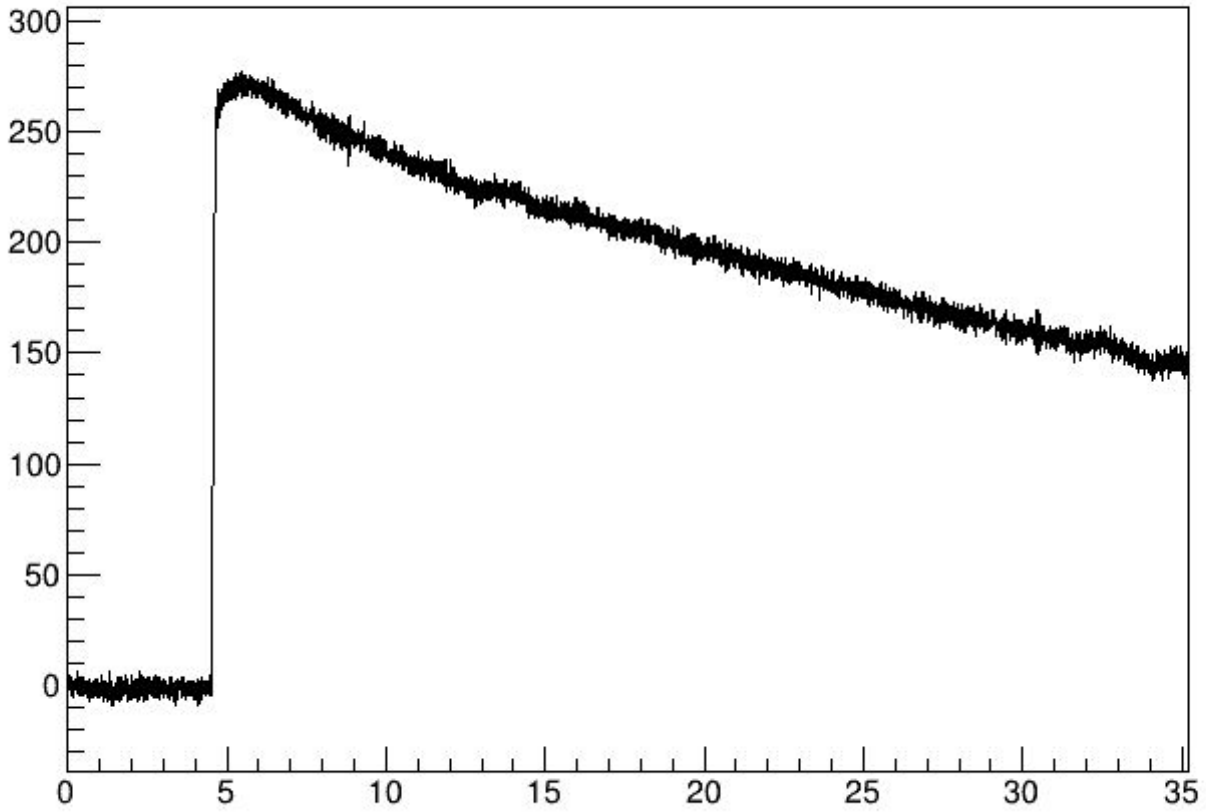
Silicon Waveform

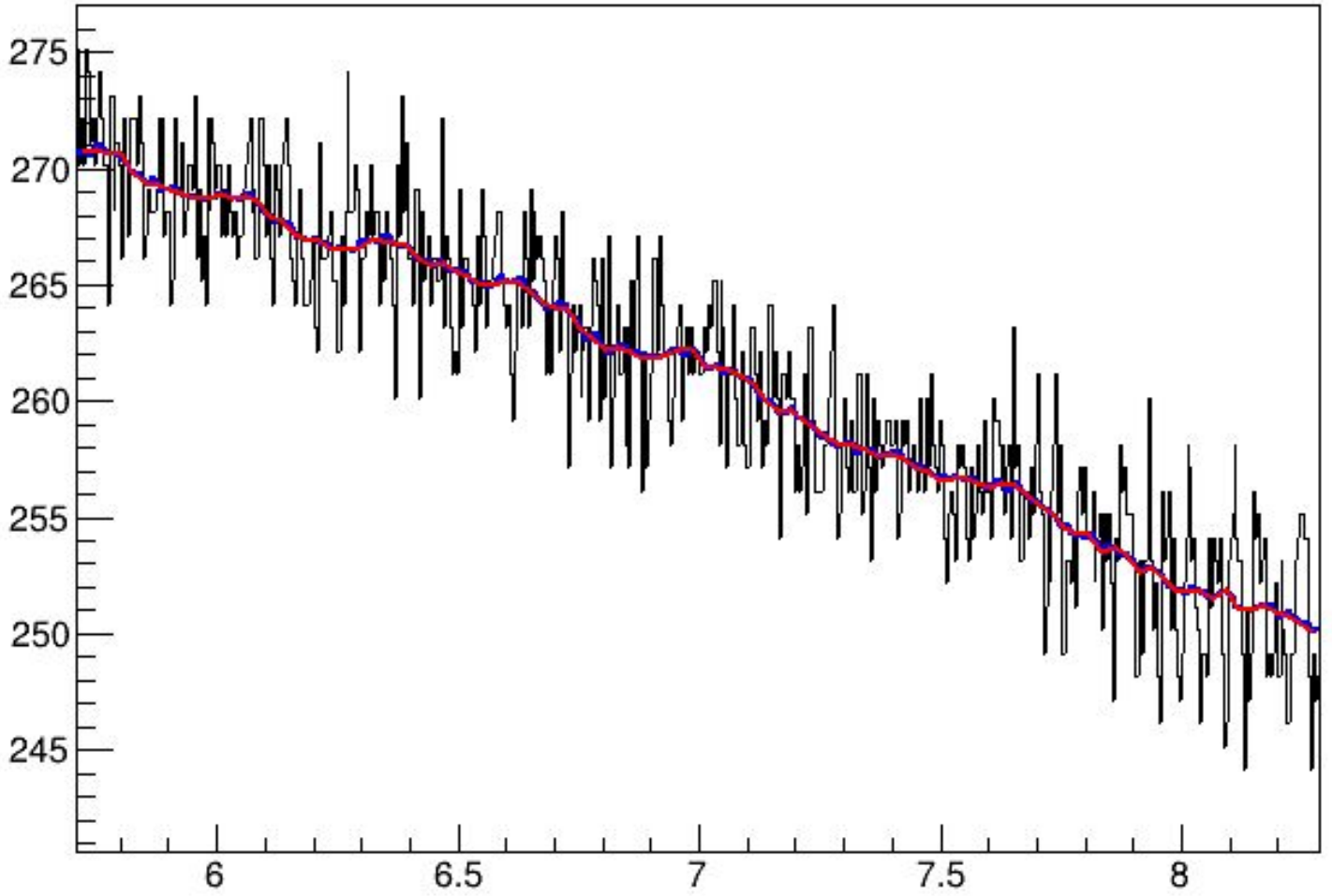
- Data from run0720a
- Backside of detector



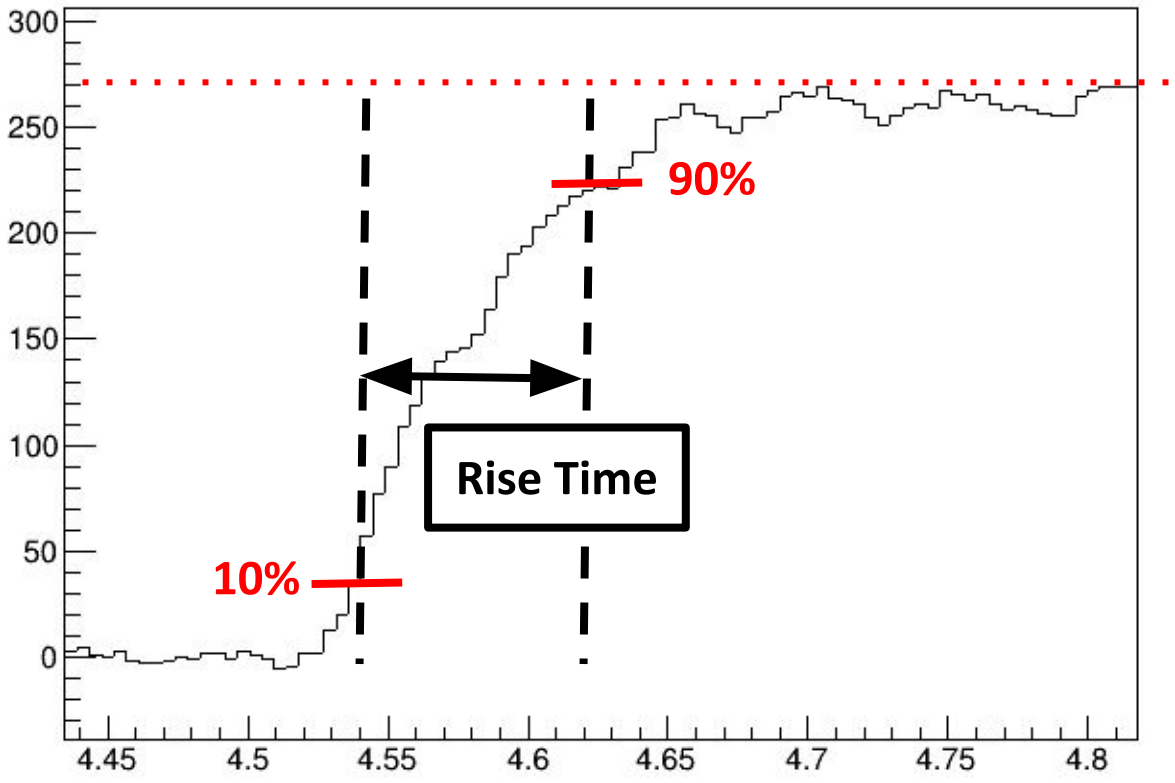


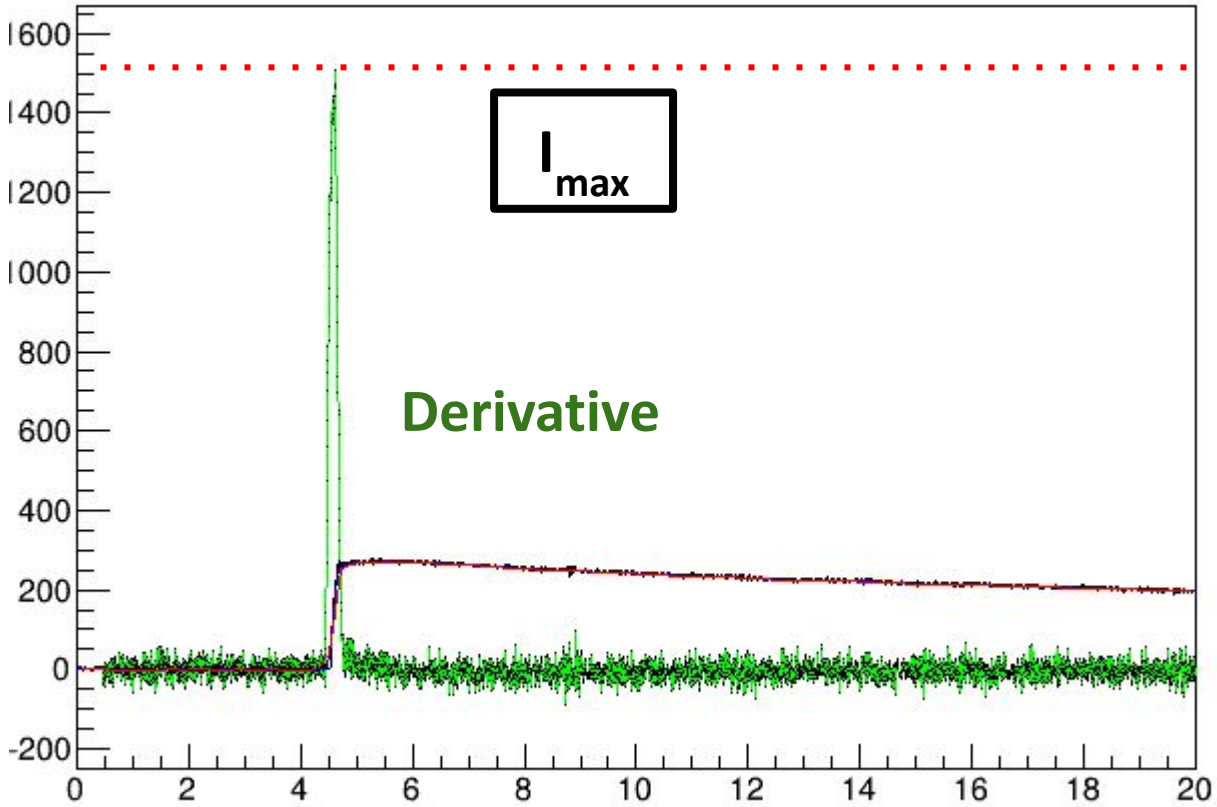
Running Average

- I_{max} uses a running average of 40 points because slope is very sensitive to noise
- Rise time uses a running average of 5 points



Rise Time and I_{max}

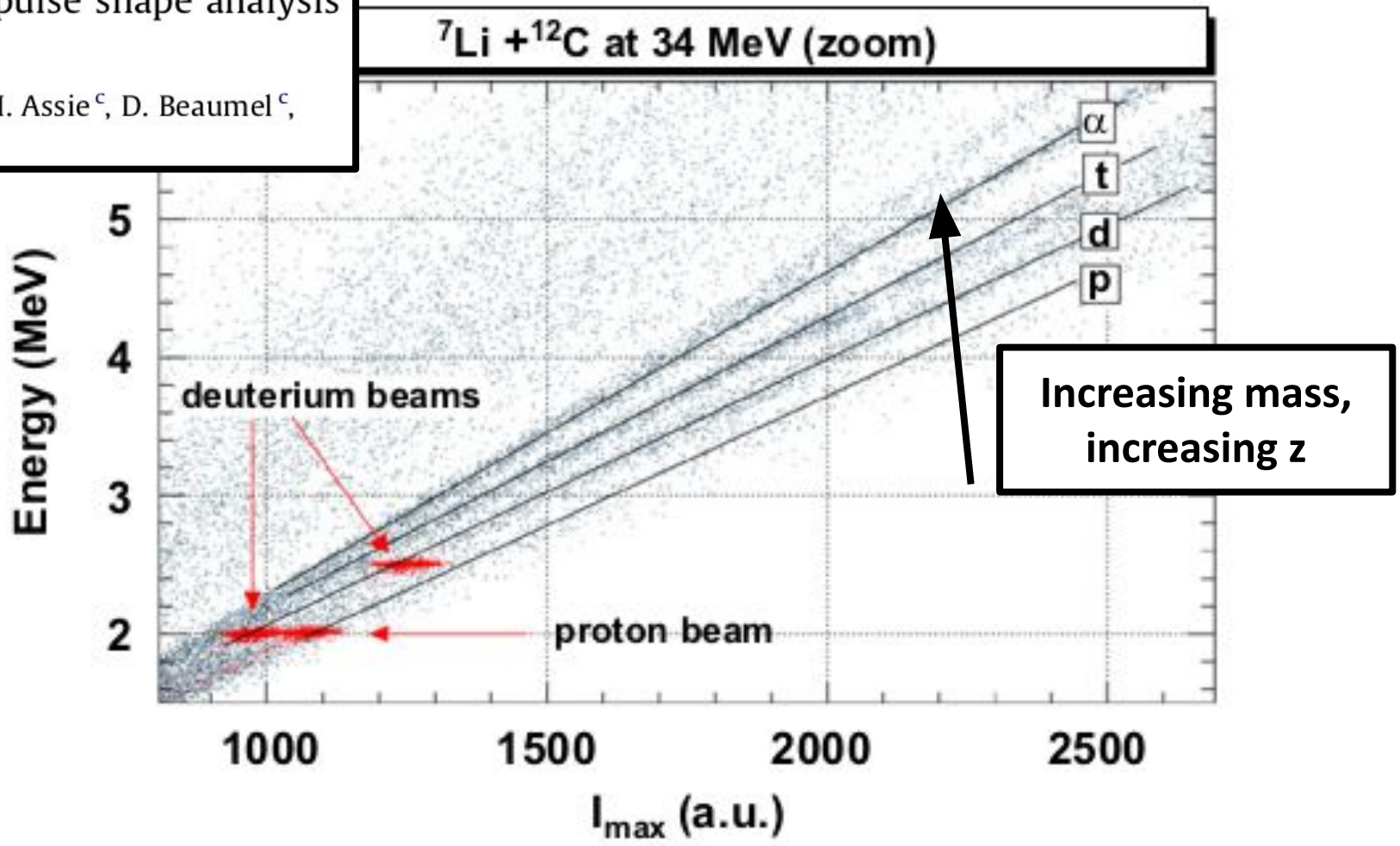




I_{max} Expectation

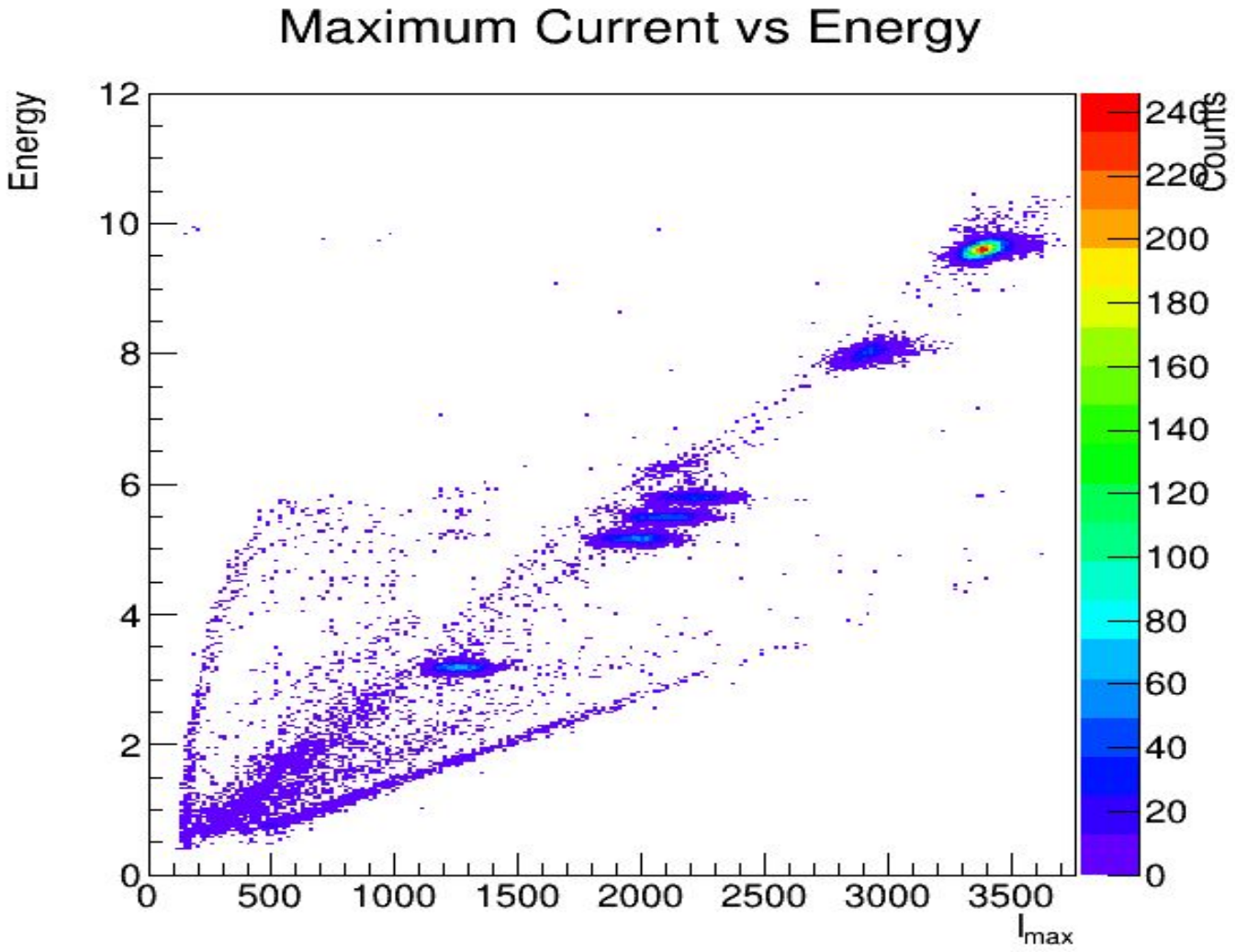
Identification of light particles by means of pulse shape analysis with silicon detector at low energy

J.A. Dueñas [a,*], D. Mengoni [b], V.V. Parkar [a], R. Berjillos [a], M. Assie [c], D. Beaumel [c], A.M. Sánchez-Benítez [a], I. Martel [a]



Our Result

- Runs 66, 67, 68, 69, 70 for 7Be on 6Li target
- Run 40 for 7Li beam
- Run 46 for 7Be beam
- Run 29 for multinuclide source



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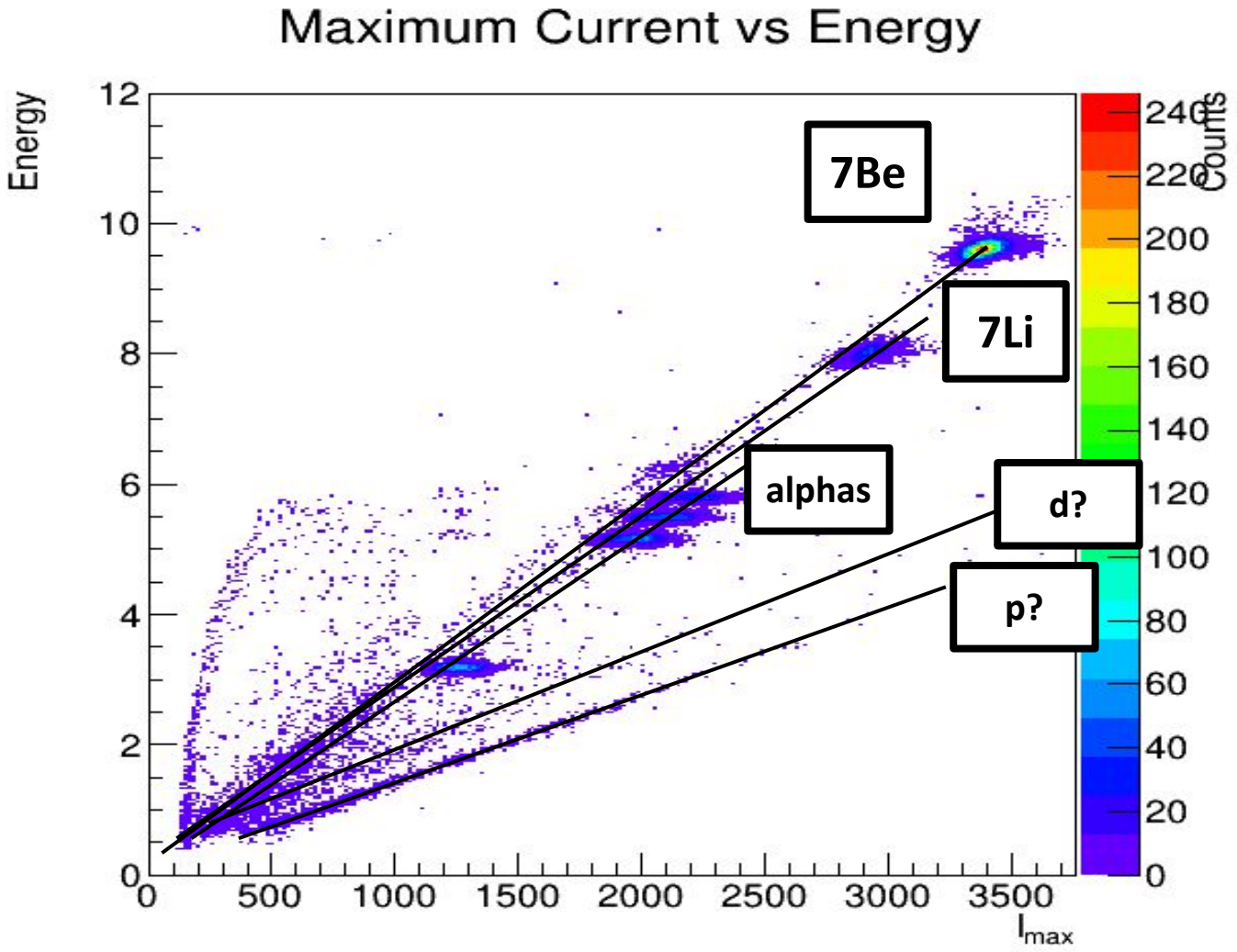
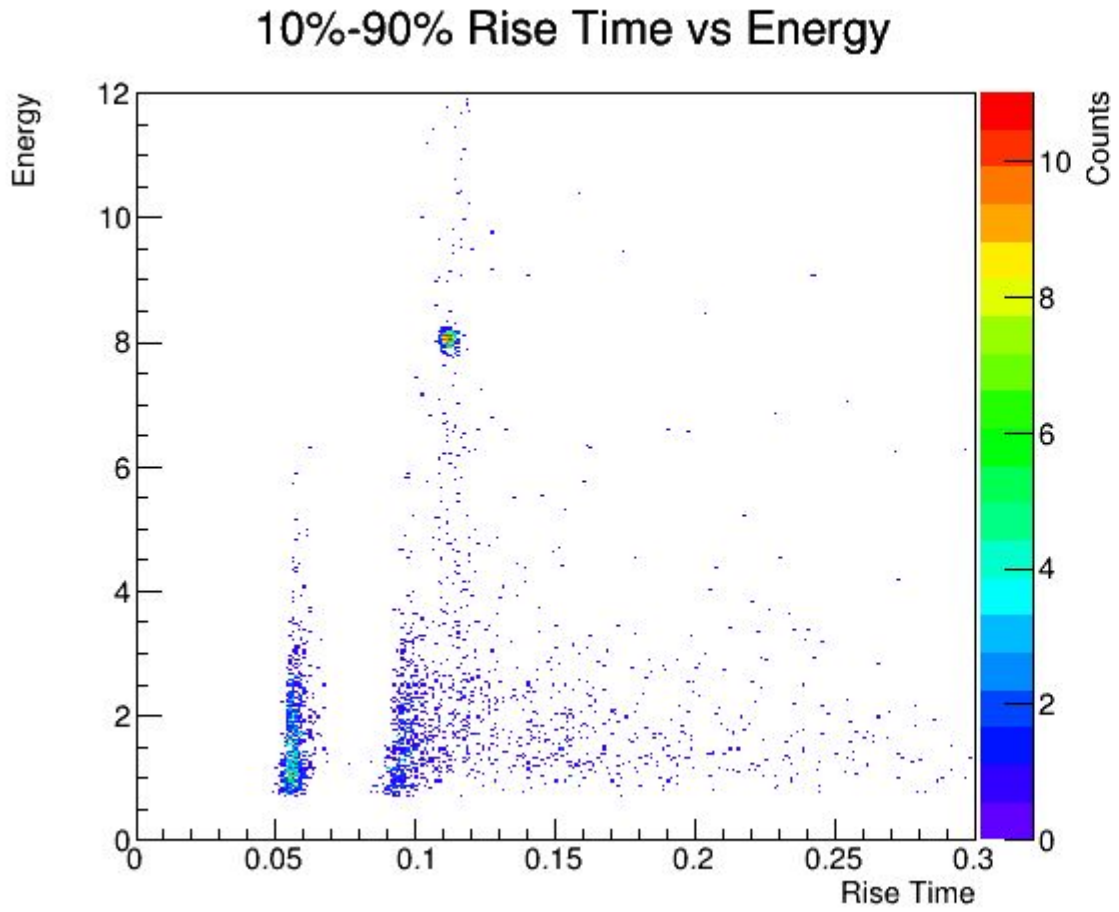
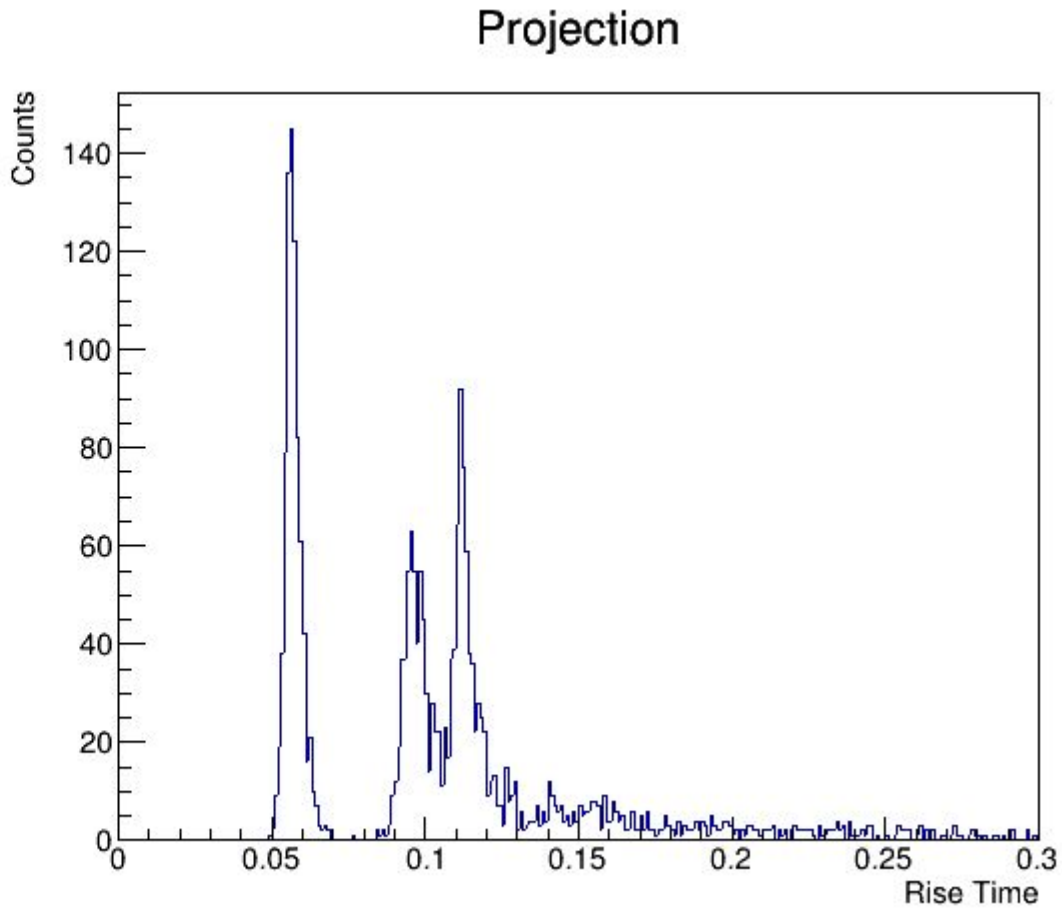
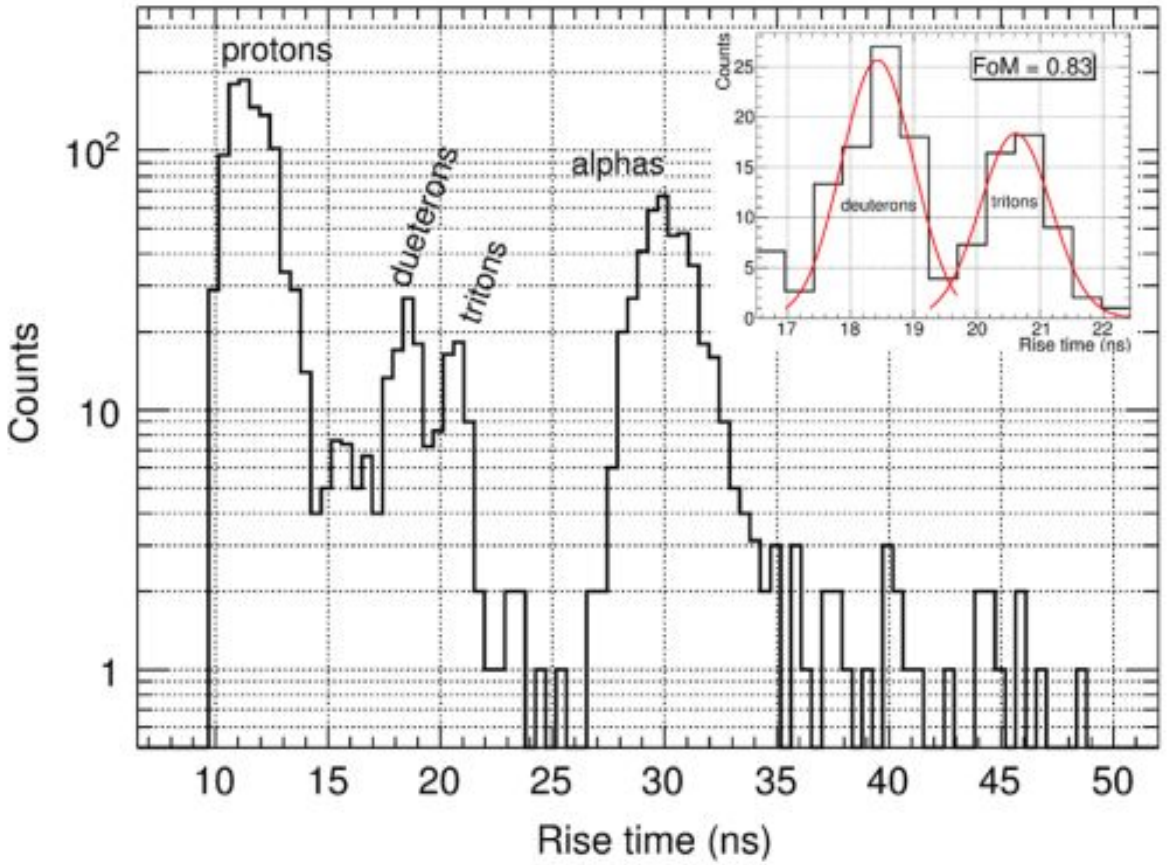


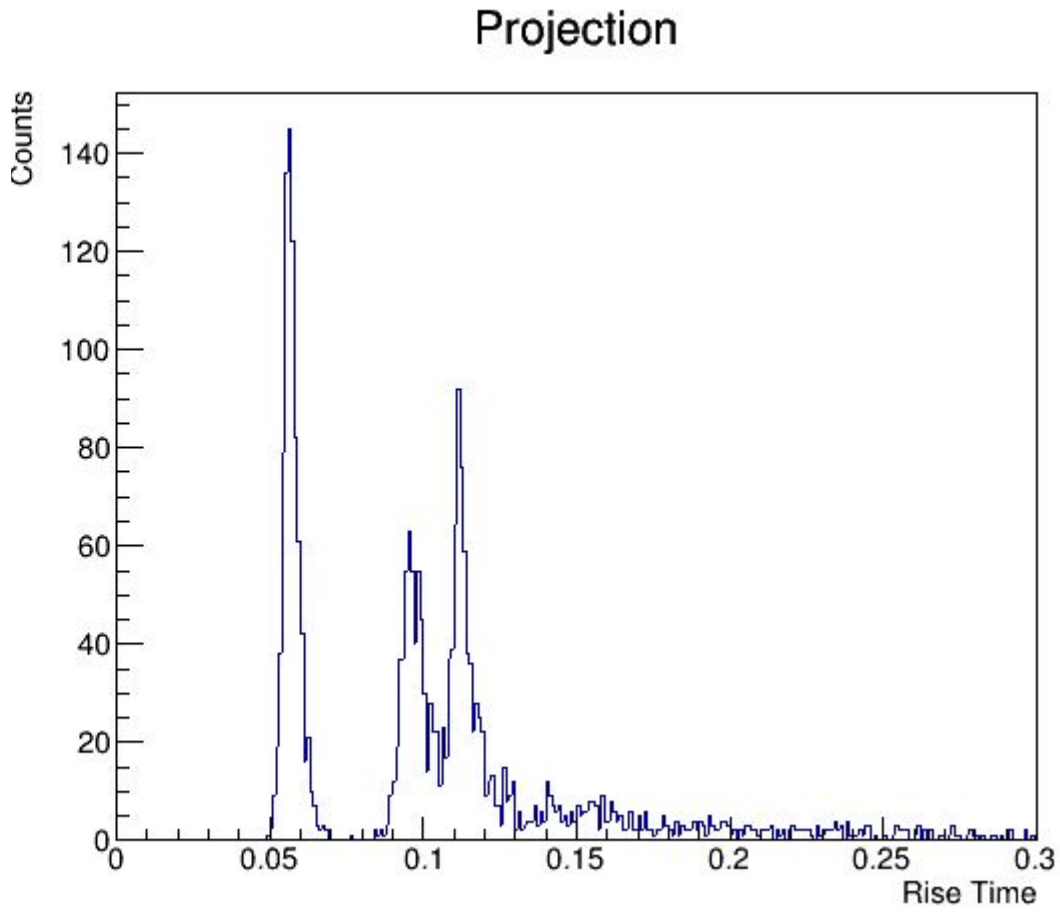
Rise Time


10%-90% Rise Time vs Energy
Energy
Rise Time
Counts
0
0.05
0.1
0.15
0.2
0.25
0.3
2
4
6
8
10
12

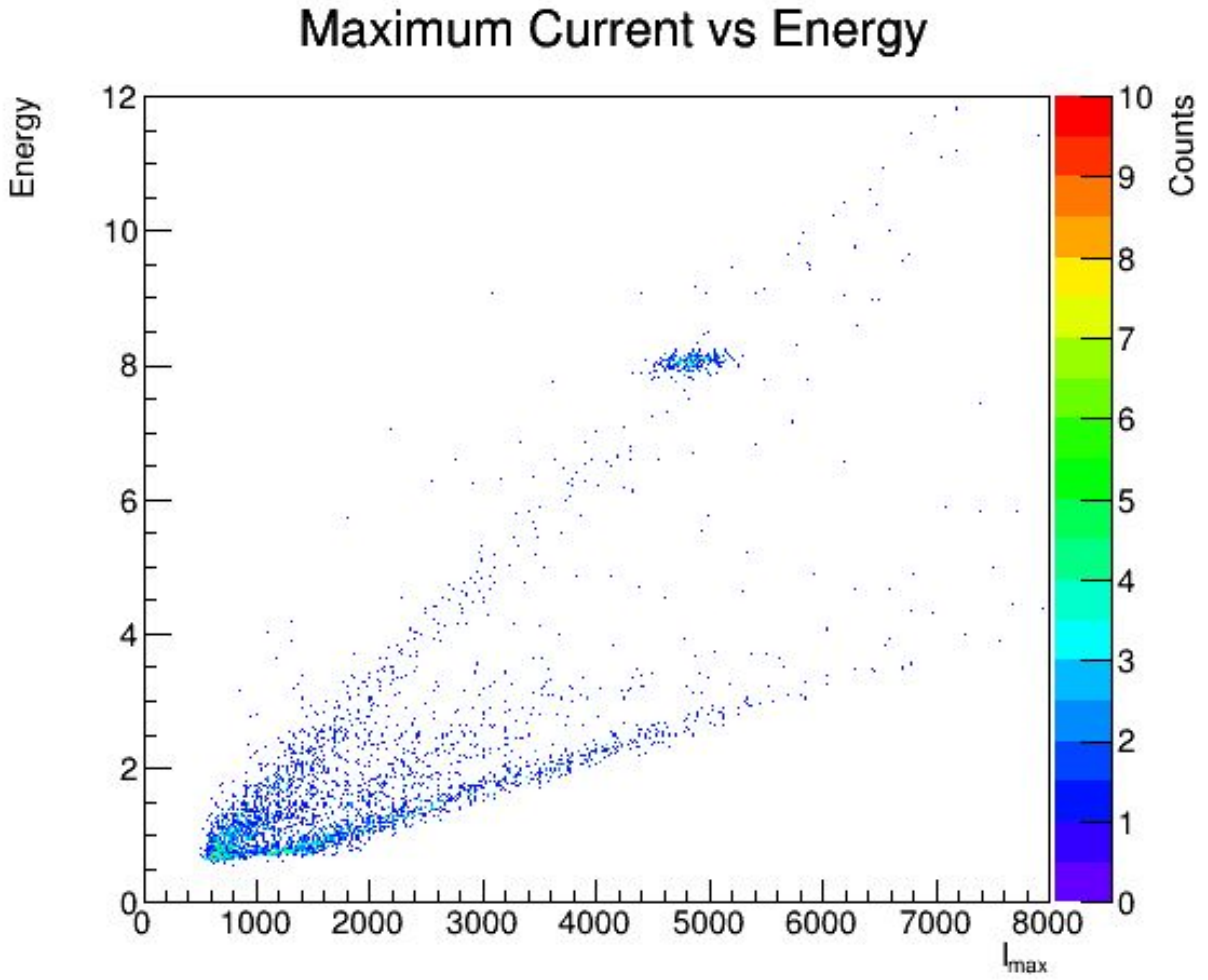

Projection
Counts
Rise Time
0
20
40
60
80
100
120
140
0.05
0.1
0.15
0.2
0.25
0.3

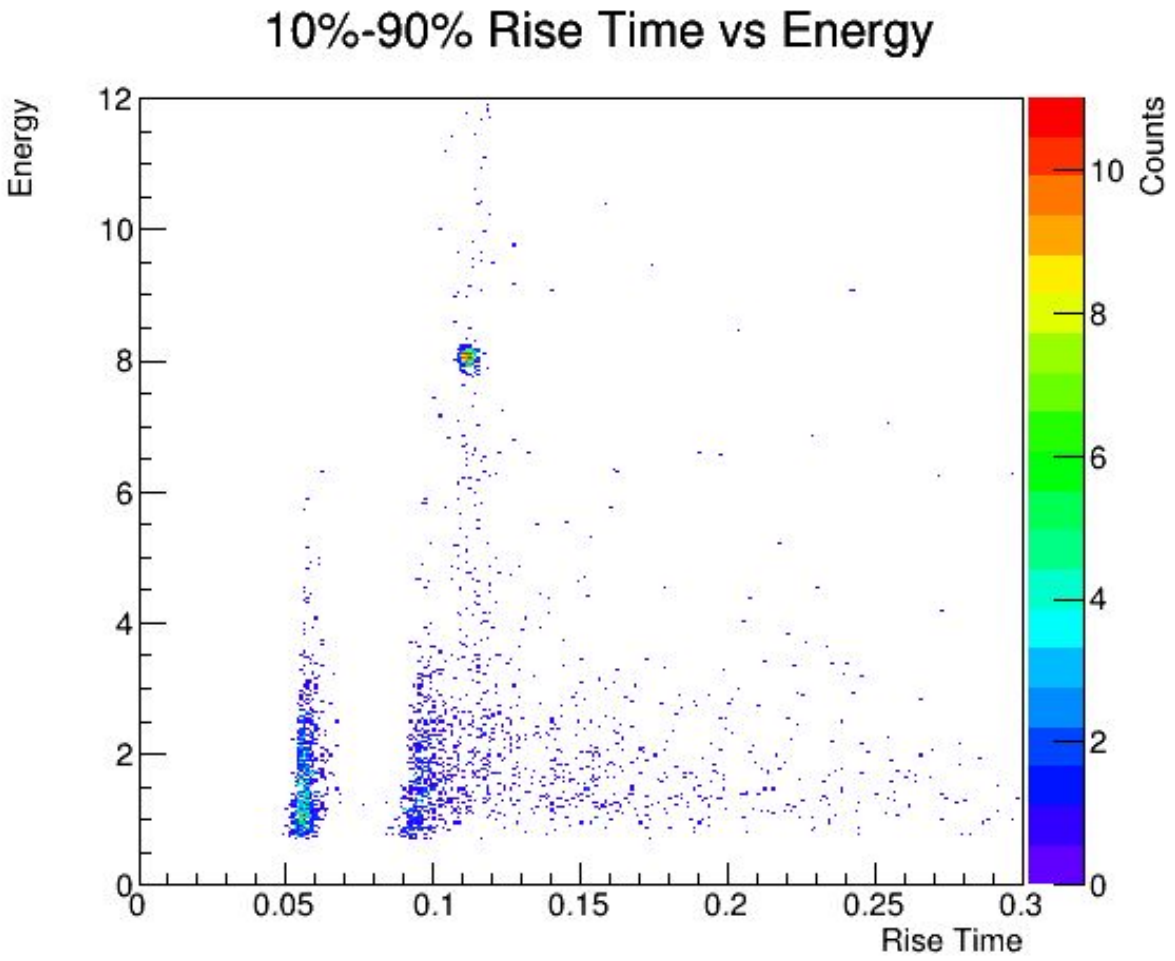
Rise Time


protons
deuterons
tritons
alphas
Counts
Rise time (ns)
FoM = 0.83
deuterons
tritons
Rise time (ns)

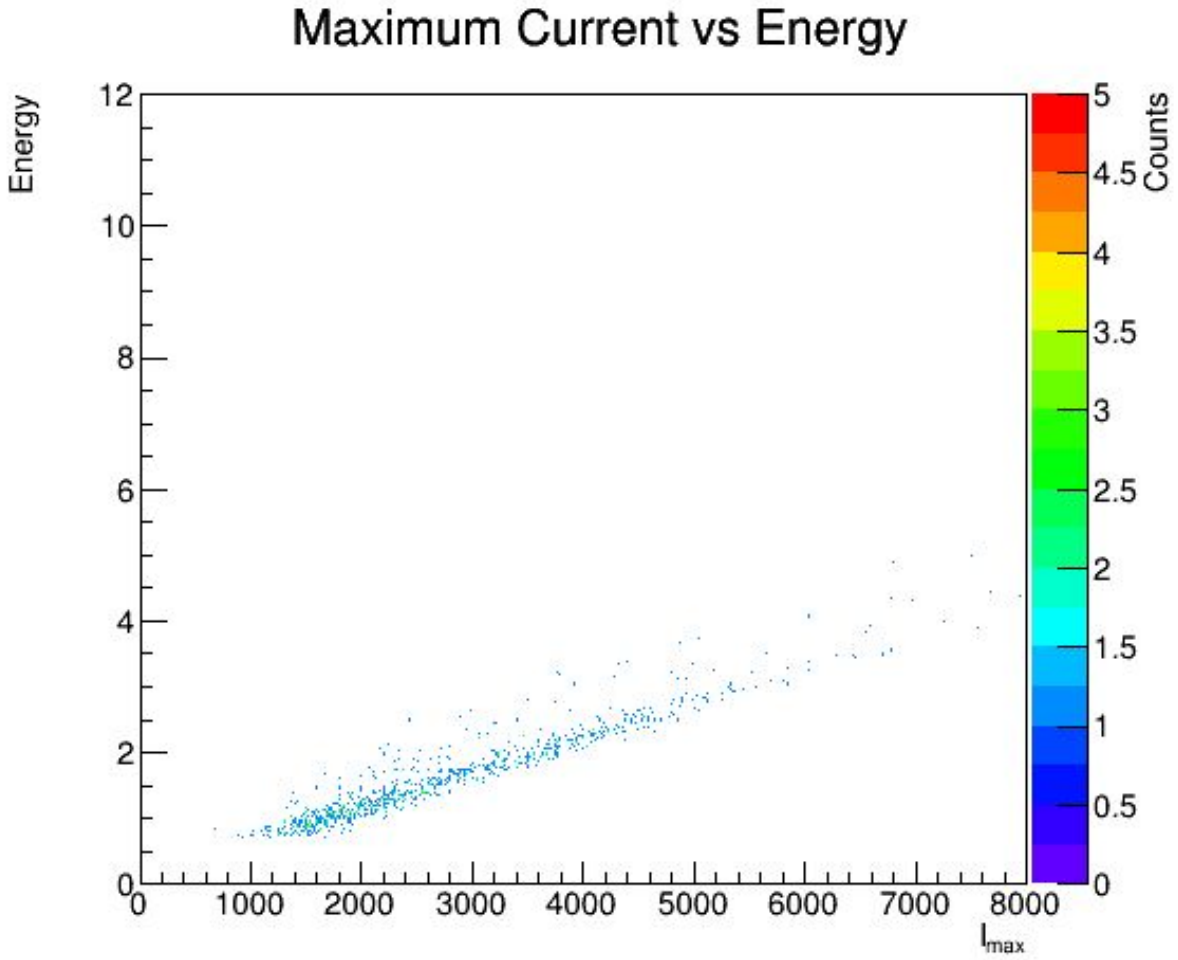

Projection
Counts
Rise Time

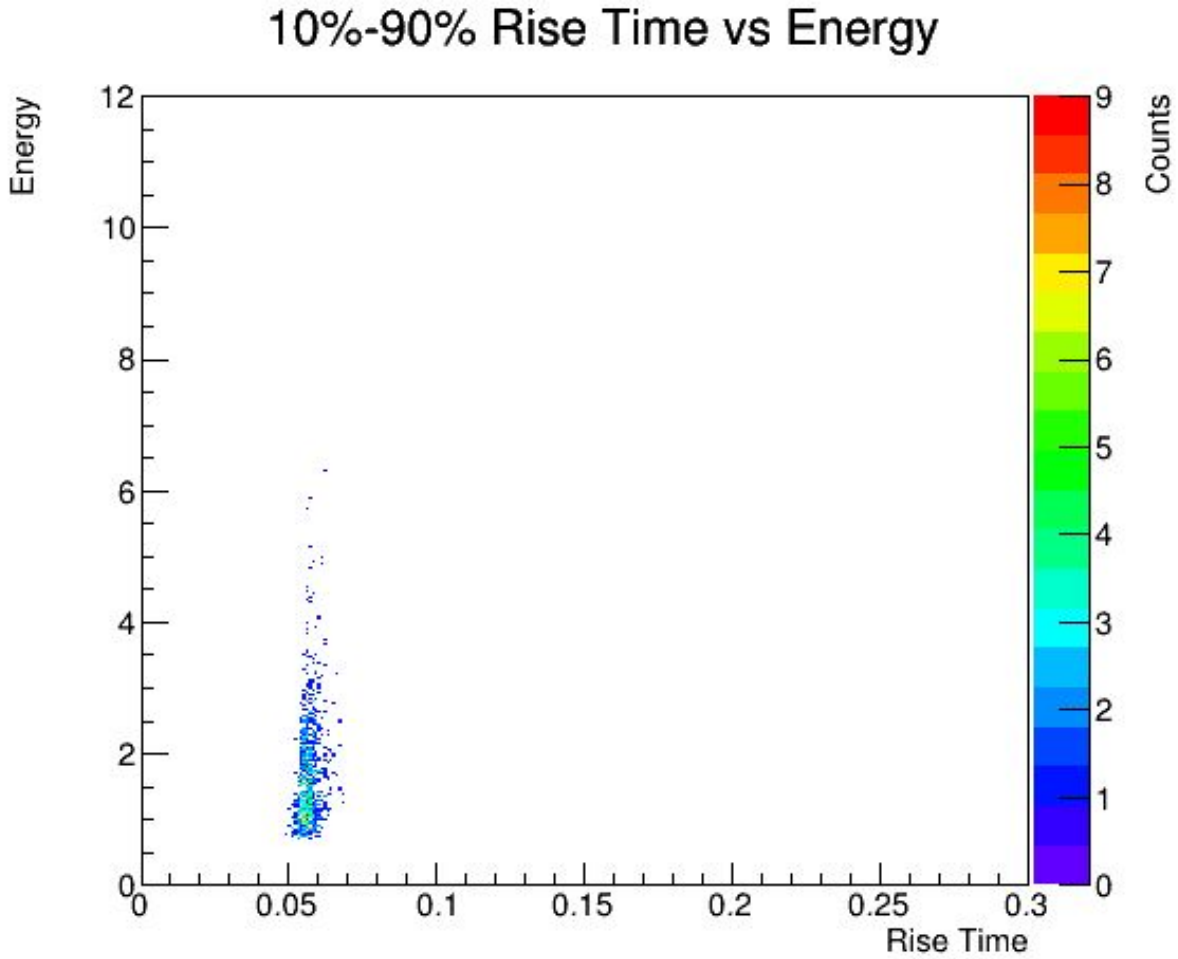
Only 7Be on 6Li



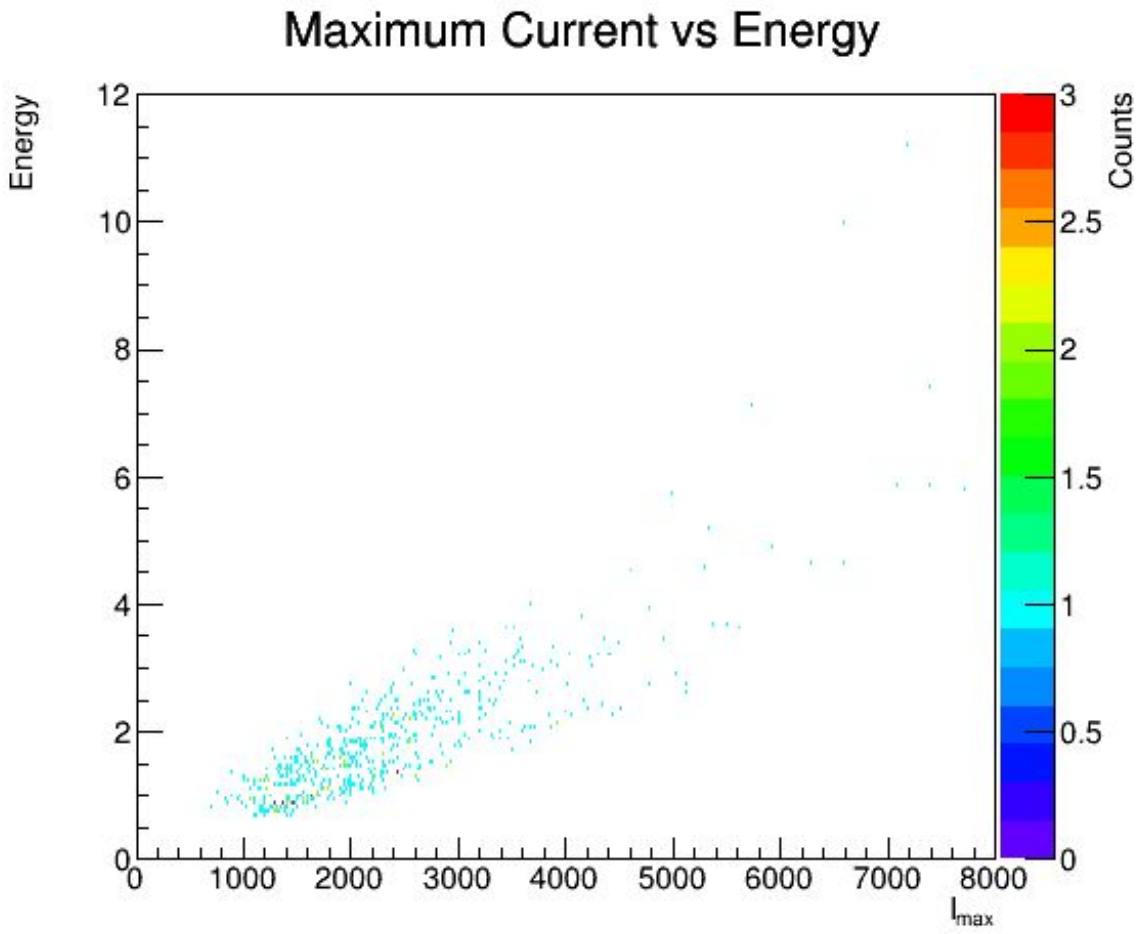


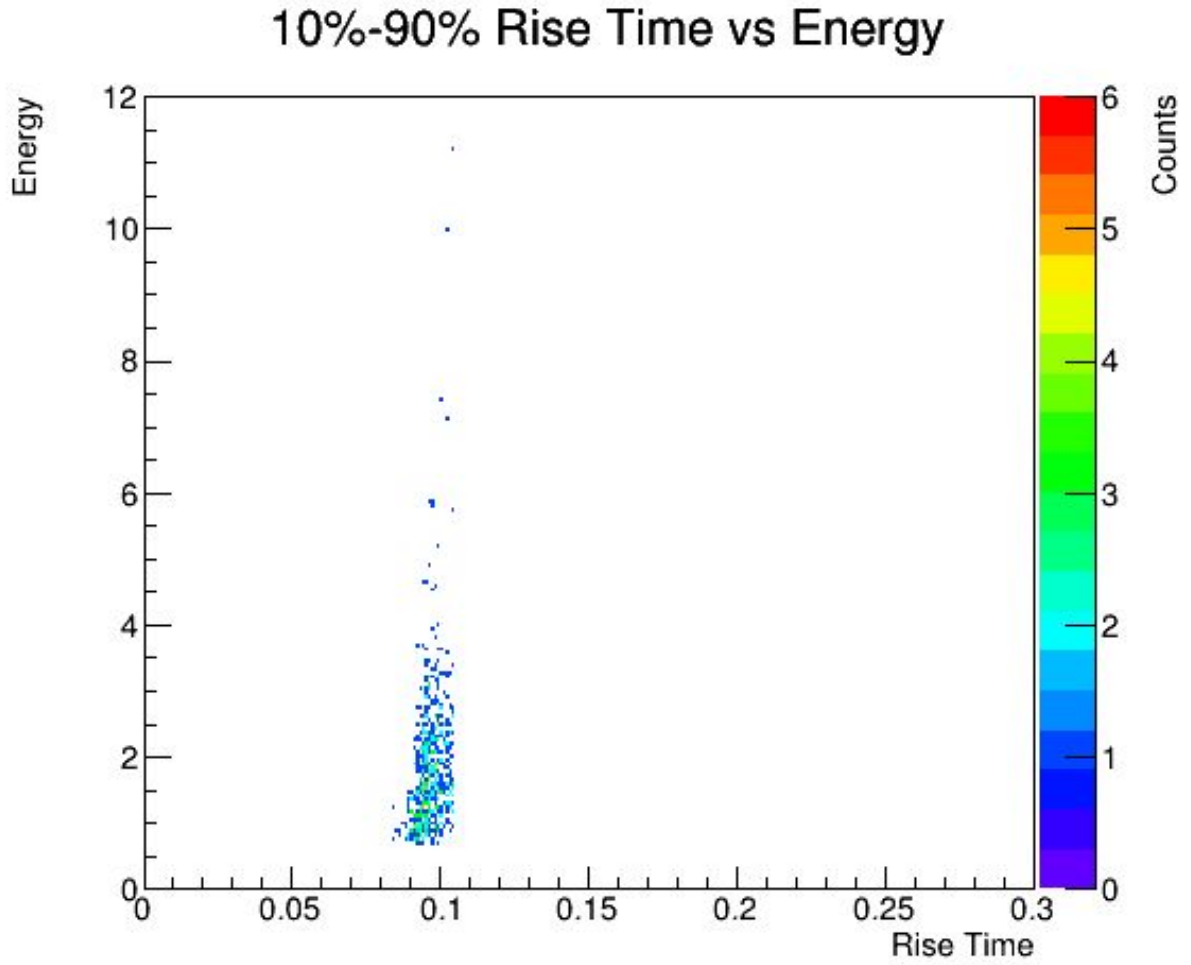
Only 7Be on 6Li



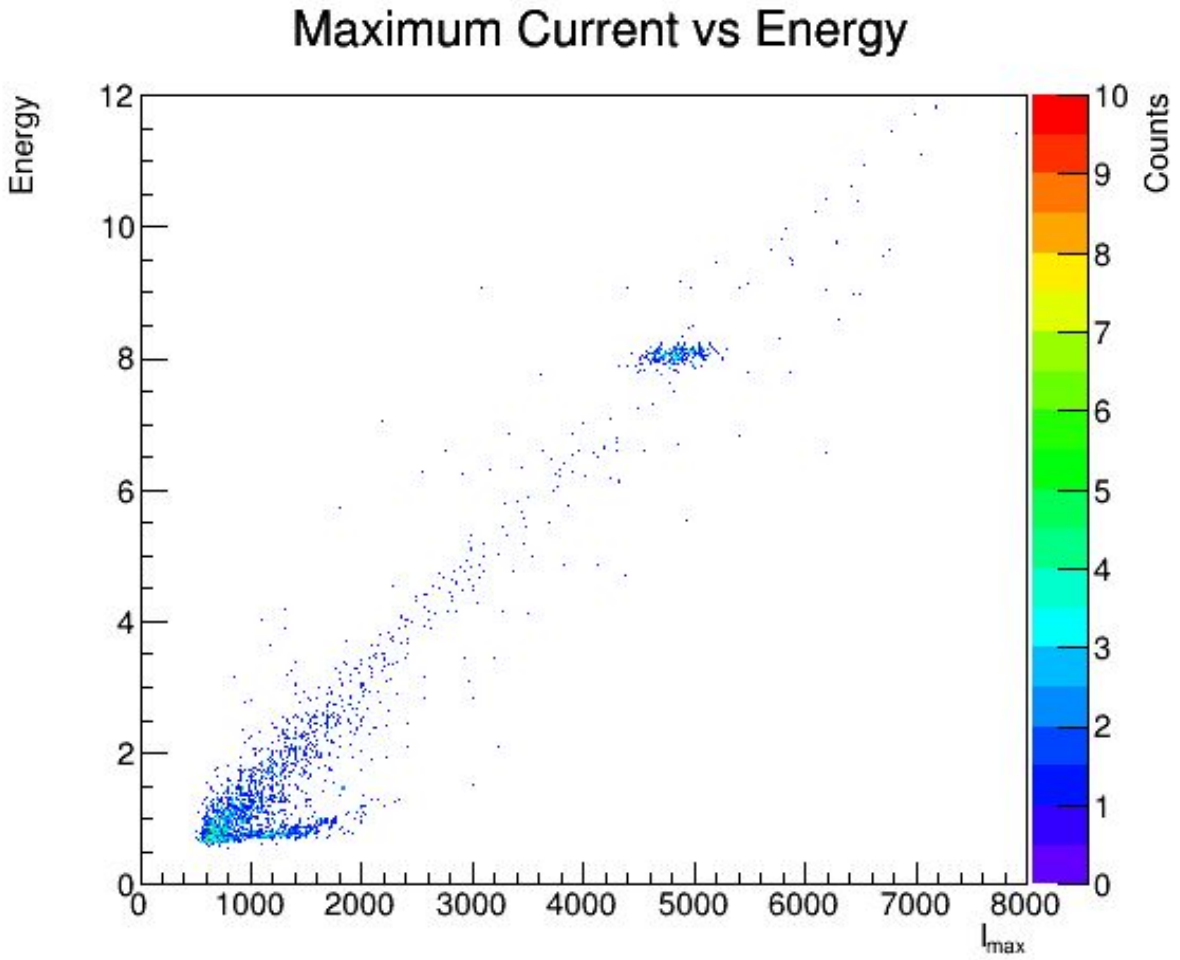


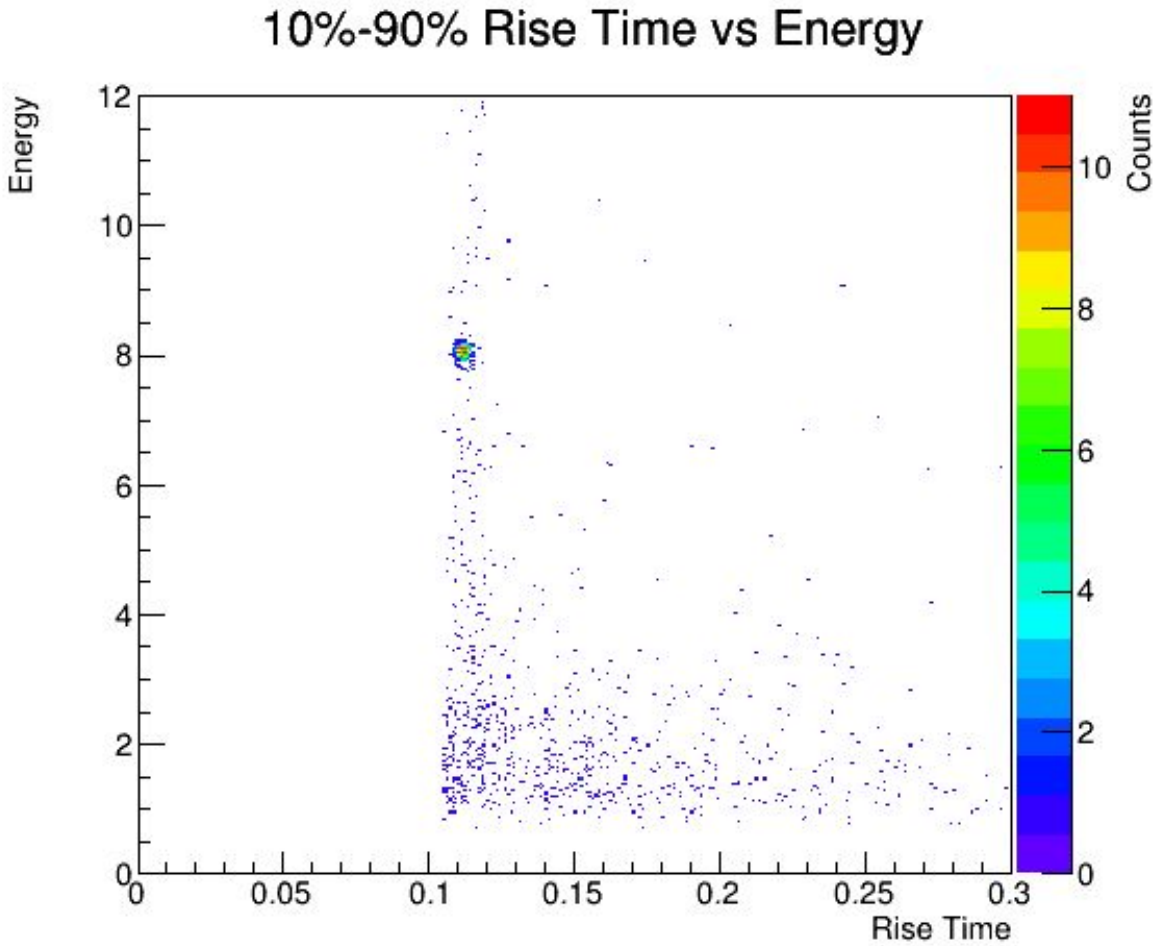
Only 7Be on 6Li





Only 7Be on 6Li





Integral Method