

Compton Effect

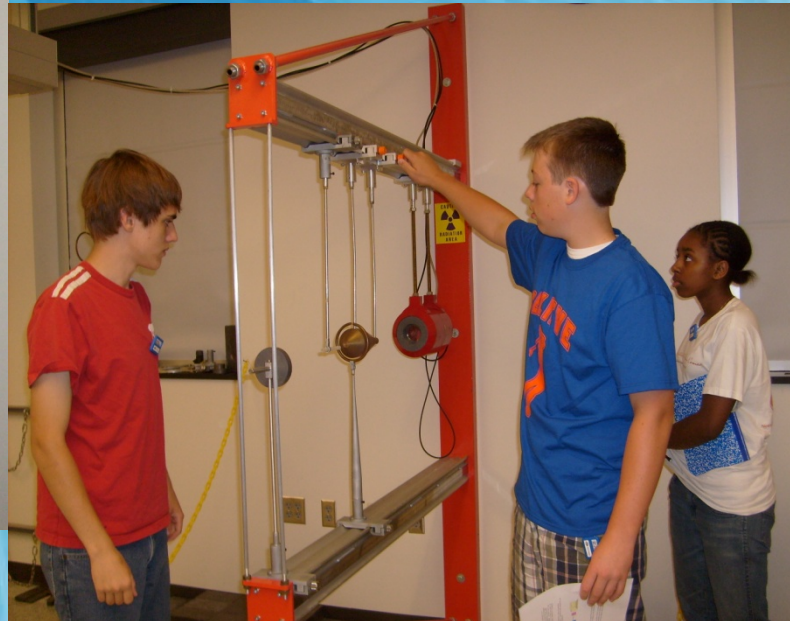
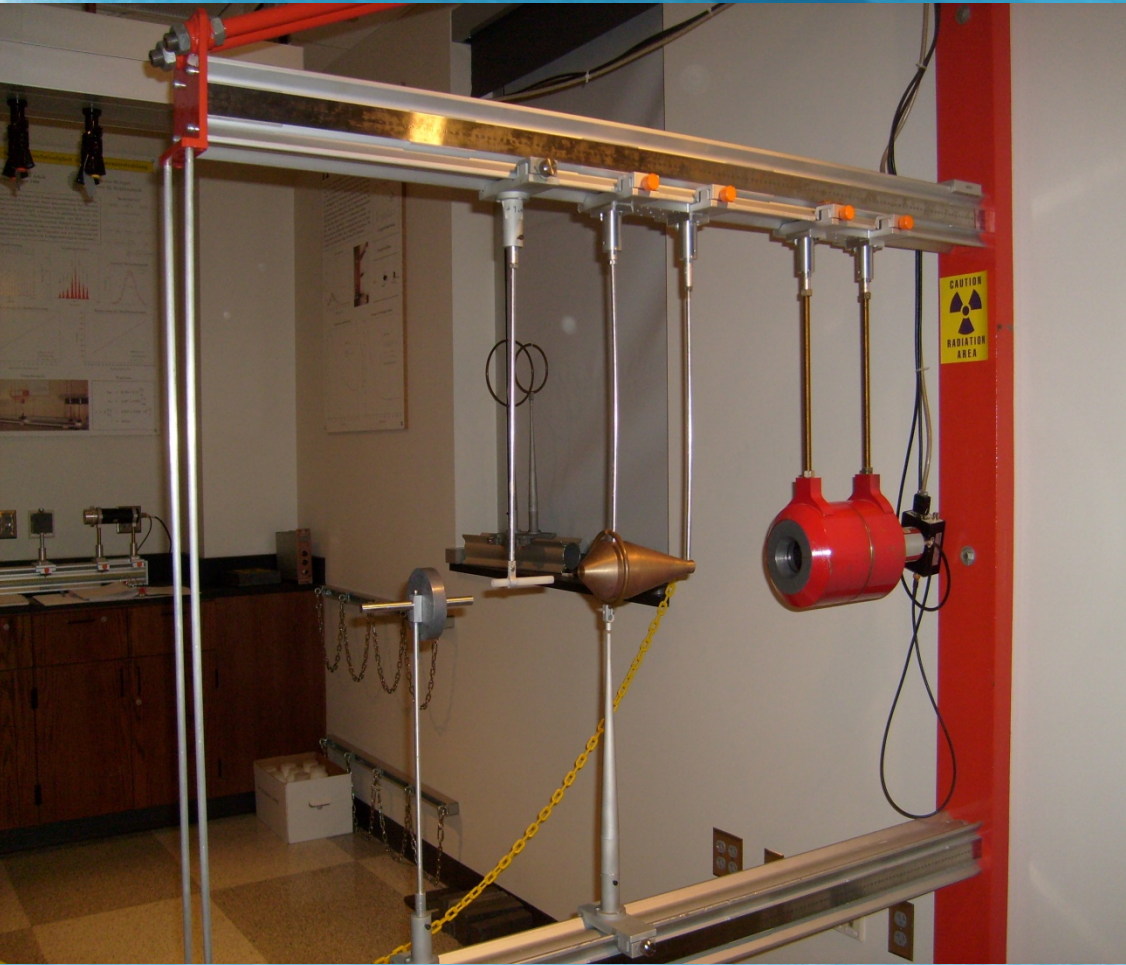
Group Delta:

Pierce Bourgeois

Matt Staffelbach

Charell Luckey

Setup



What is it?

- ◆ The Compton Effect is the measure of the ratio between the angle and the ending energy of the gamma ray.

First Step

- ◆ First we had to calibrate the distance between the source and the detector so the angle would be correct.

What we did

- ◆ Then we had to move the metal ring into position so the beams would bounce off of it and into the detector.
- ◆ Finally we would move the lead torpedo into the spot to collect stray beams.

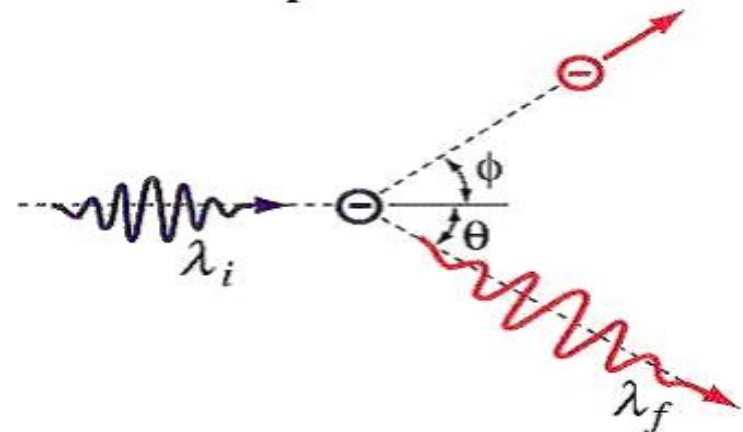
How it works

Higher distance of ring = Smaller change of degree in direction of gamma photon

Larger angle degree = Larger energy transfer out of the gamma photon



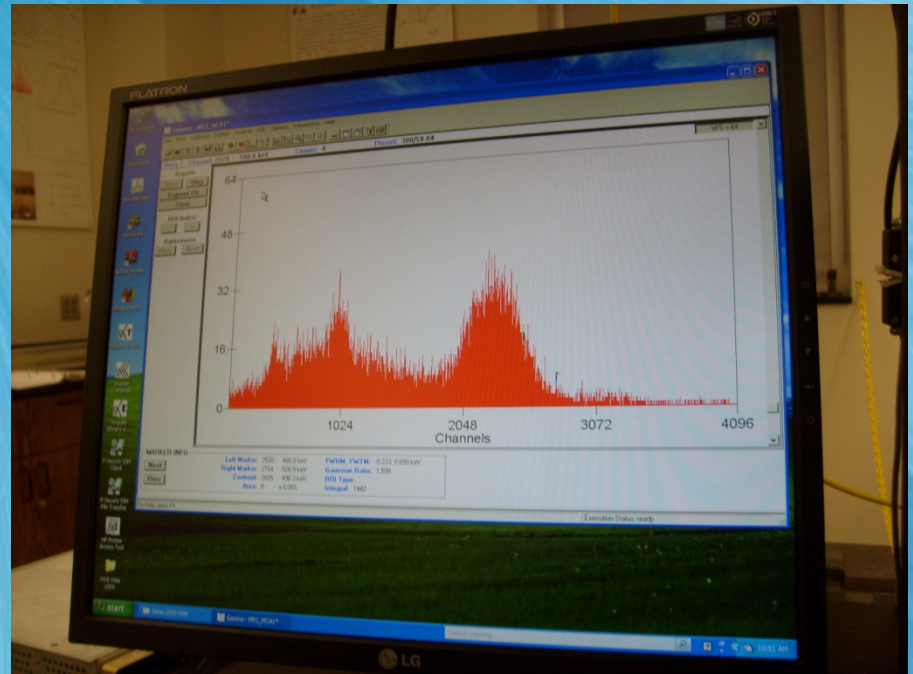
Compton Effect



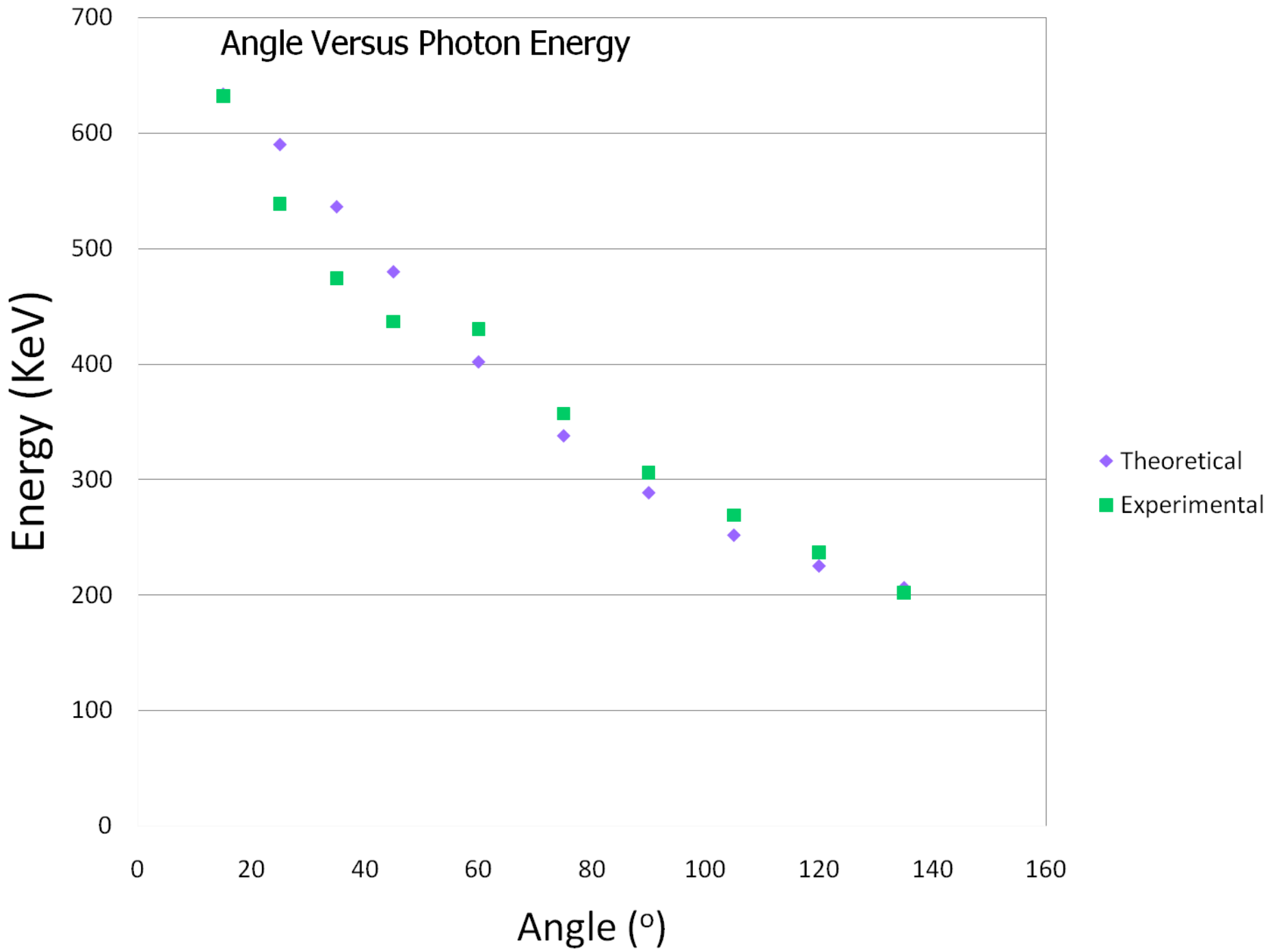
The Channel and Energy

To start the experiment place the source Cesium 137 into the tube.
Then click the collect button on the data collecting program .

The way the graph is interpreted is the computer receives the signal from the detector, and shows us how much of each channel (or energy) has been detected. The higher the channel the more hits of energy it has received.

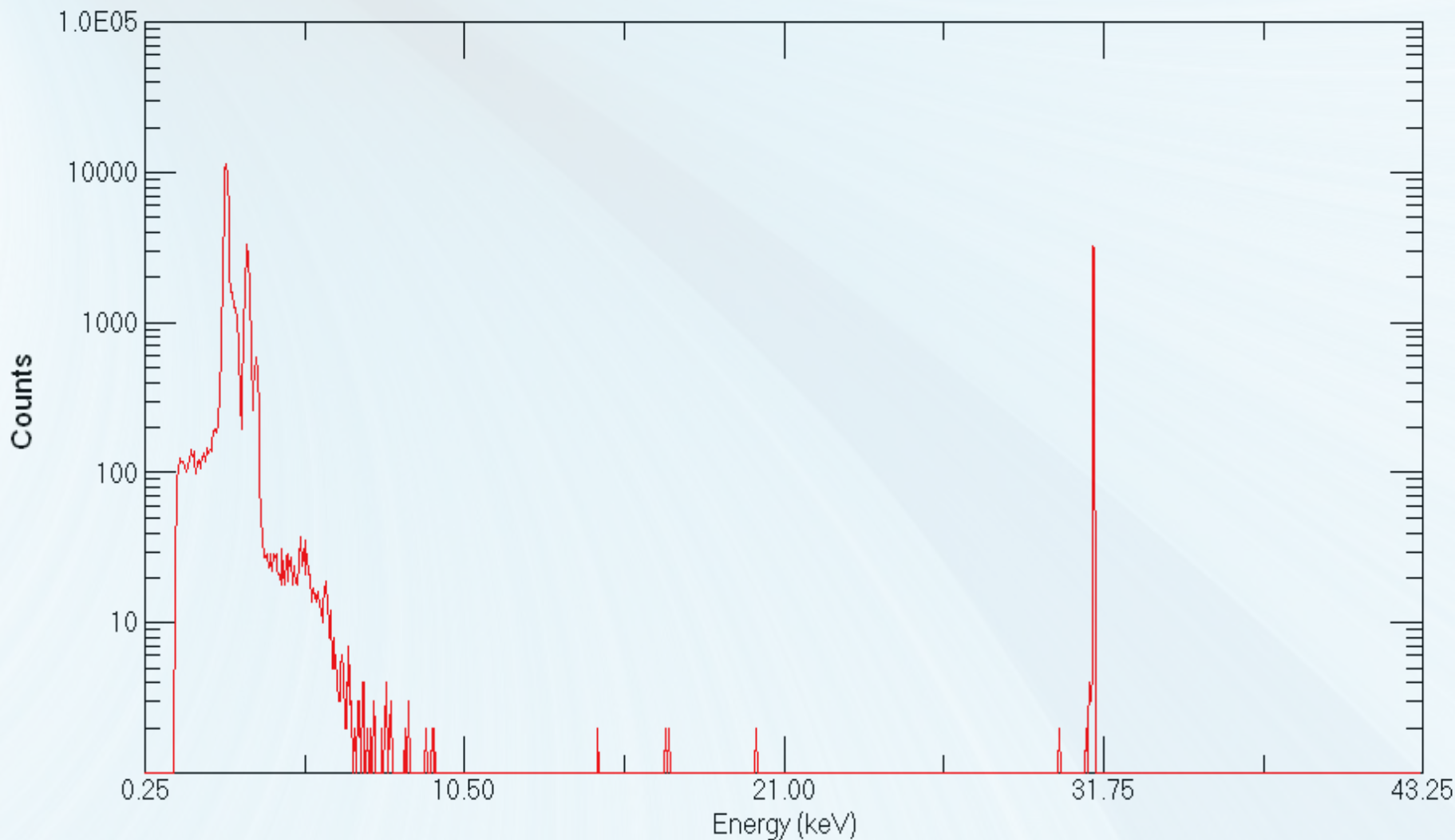


Angle Versus Photon Energy



evidence from the crime scene

crime scene evidence



Acquired: 6/25/2009 10:13:50 AM

File: D:\Thursday AM\evidence from the crime scene.Chn

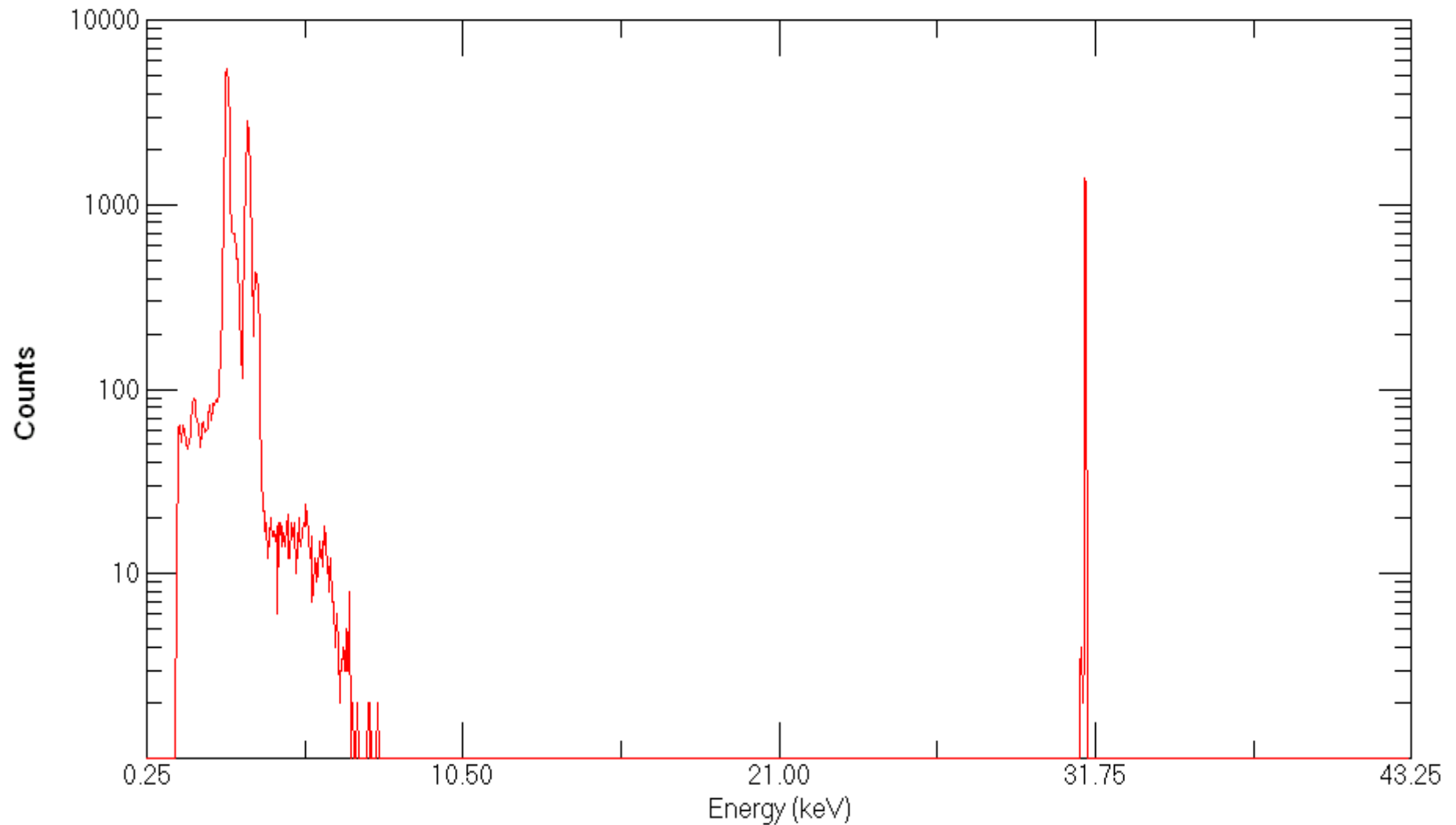
Detector: #2 PIXE MCB 129 Input 2

Real Time: 212.26 s. Live Time: 205.34 s.

Channels: 2048

suspect evidence

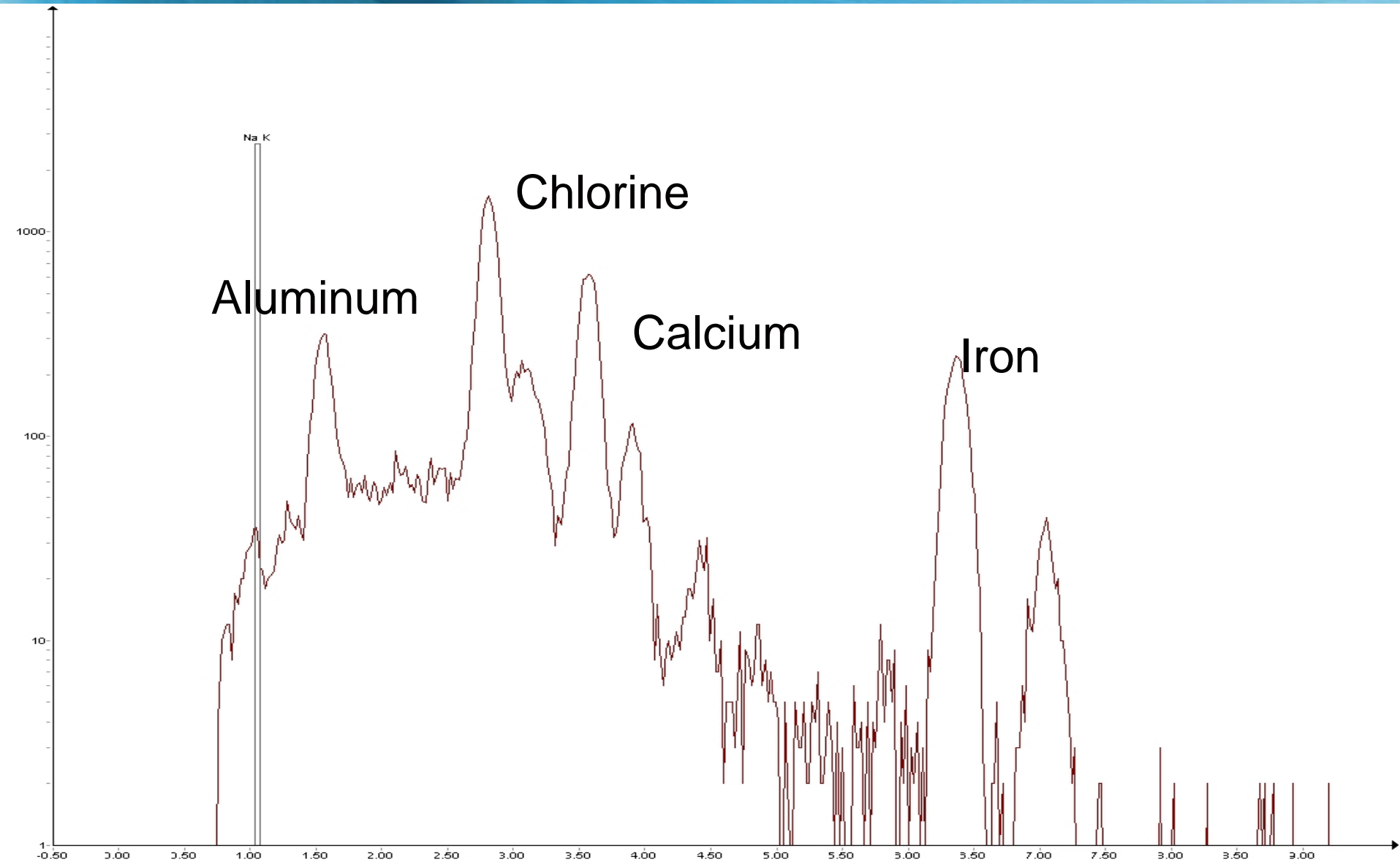
suspect evidence



Acquired: 6/25/2009 10:19:58 AM
File: D:\Thursday AM\suspect evidence.Chn
Detector: #2 PIXE MCB 129 Input 2

Real Time: 94.46 s. Live Time: 90.60 s.
Channels: 2048

Matt's Rock



The End

We would like to thank the people of PIXE
PAN to give us this opportunity to learn about
physics.