A Low Activity Mössbauer Source to Test General Relativity using the Transverse Doppler Effect.

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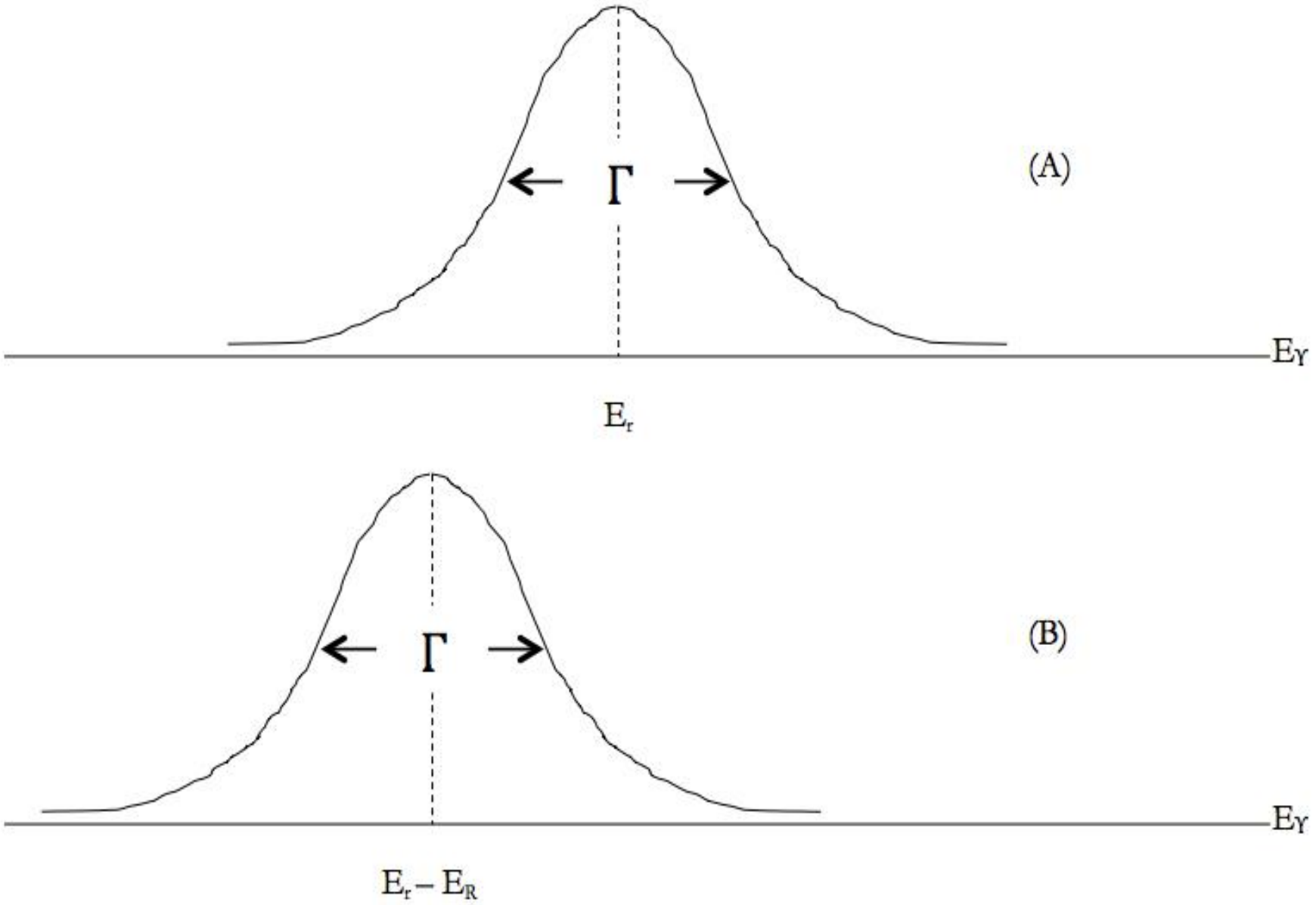
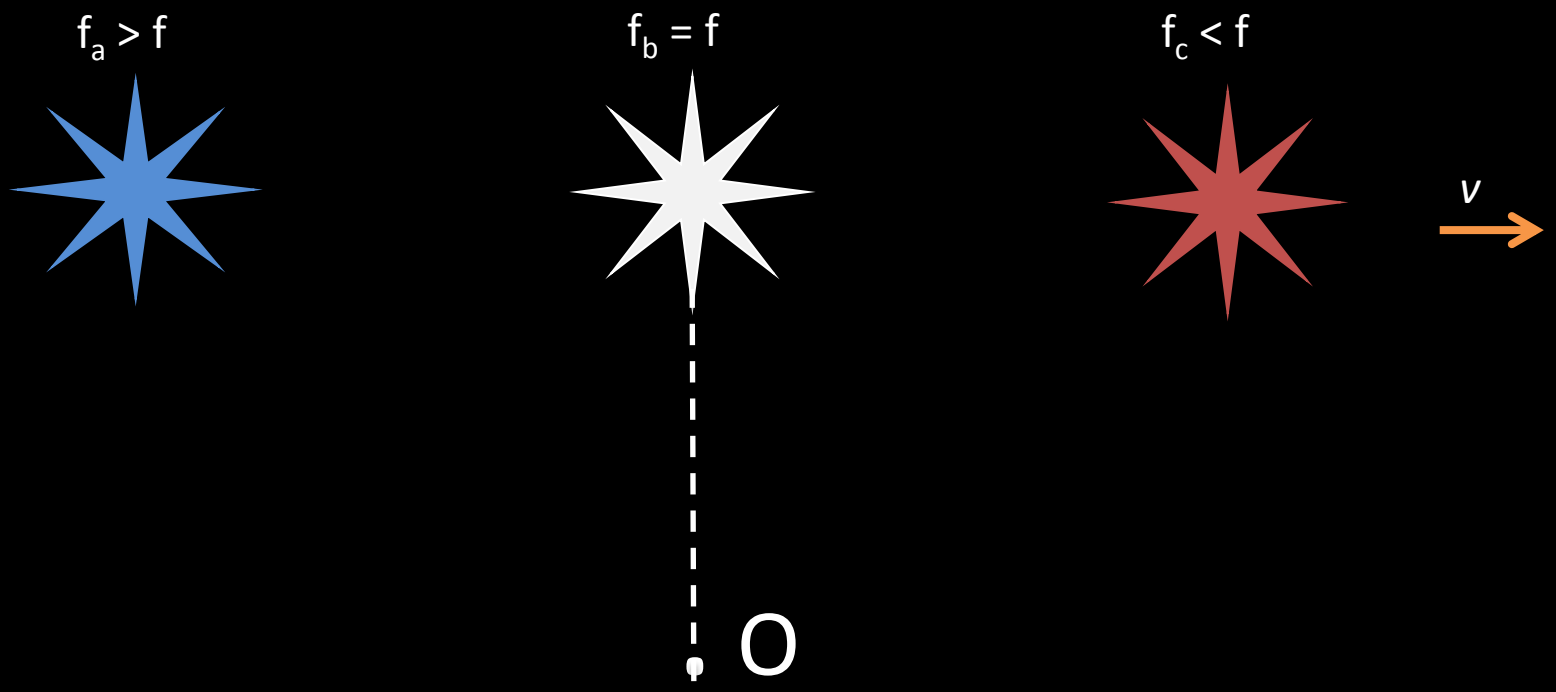
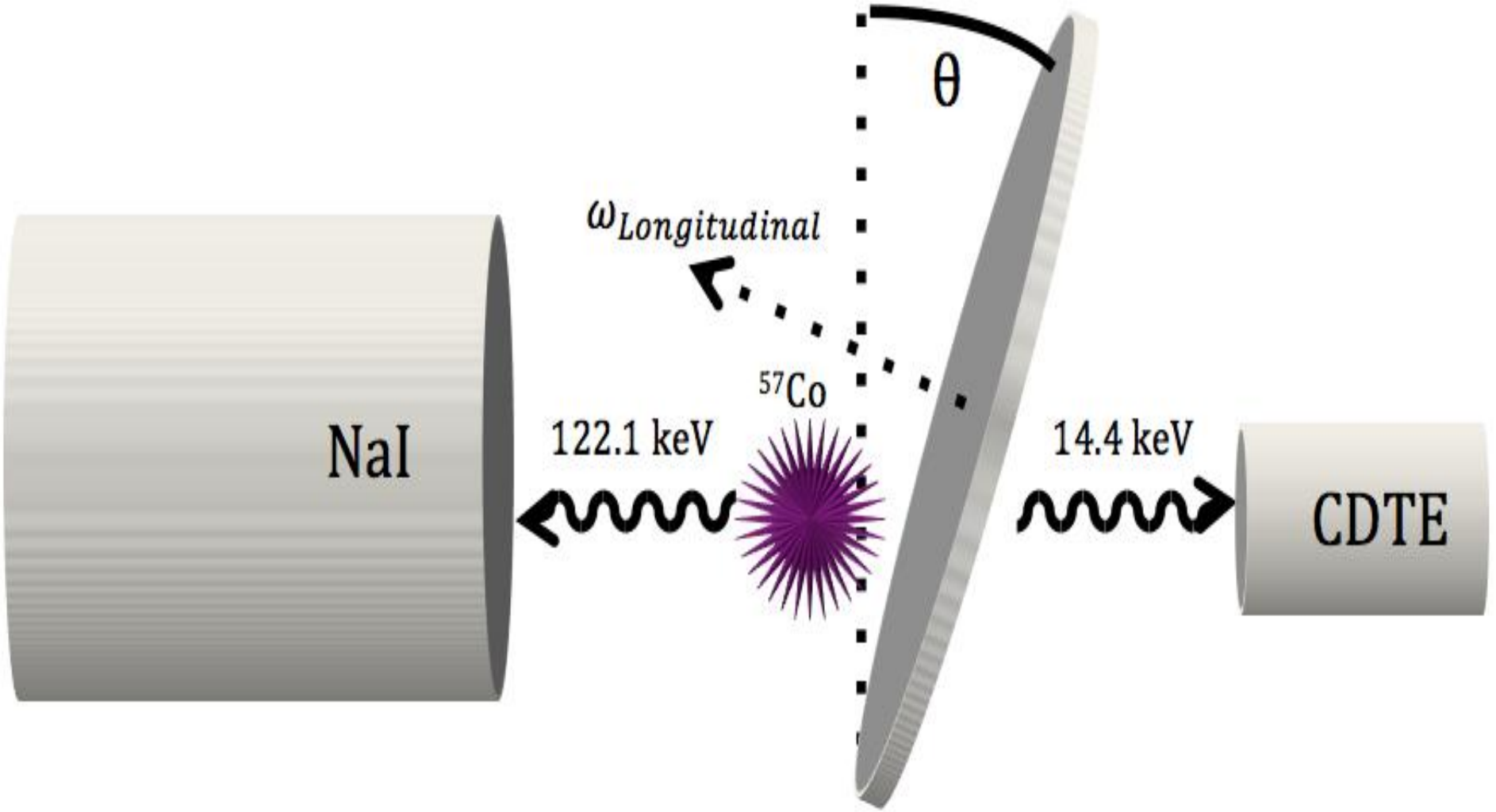
The Mössbauer Effect



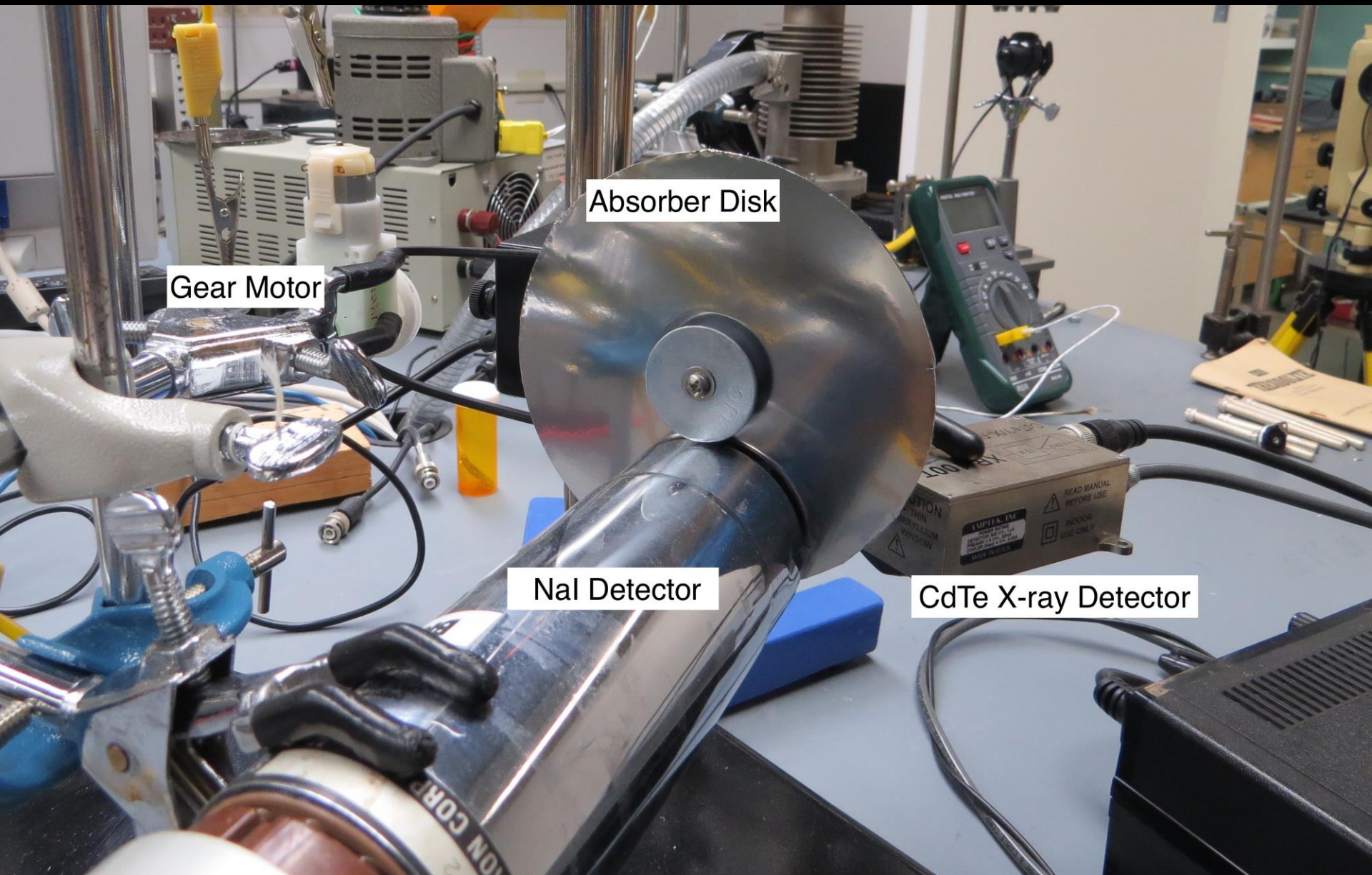
The Longitudinal Doppler Effect



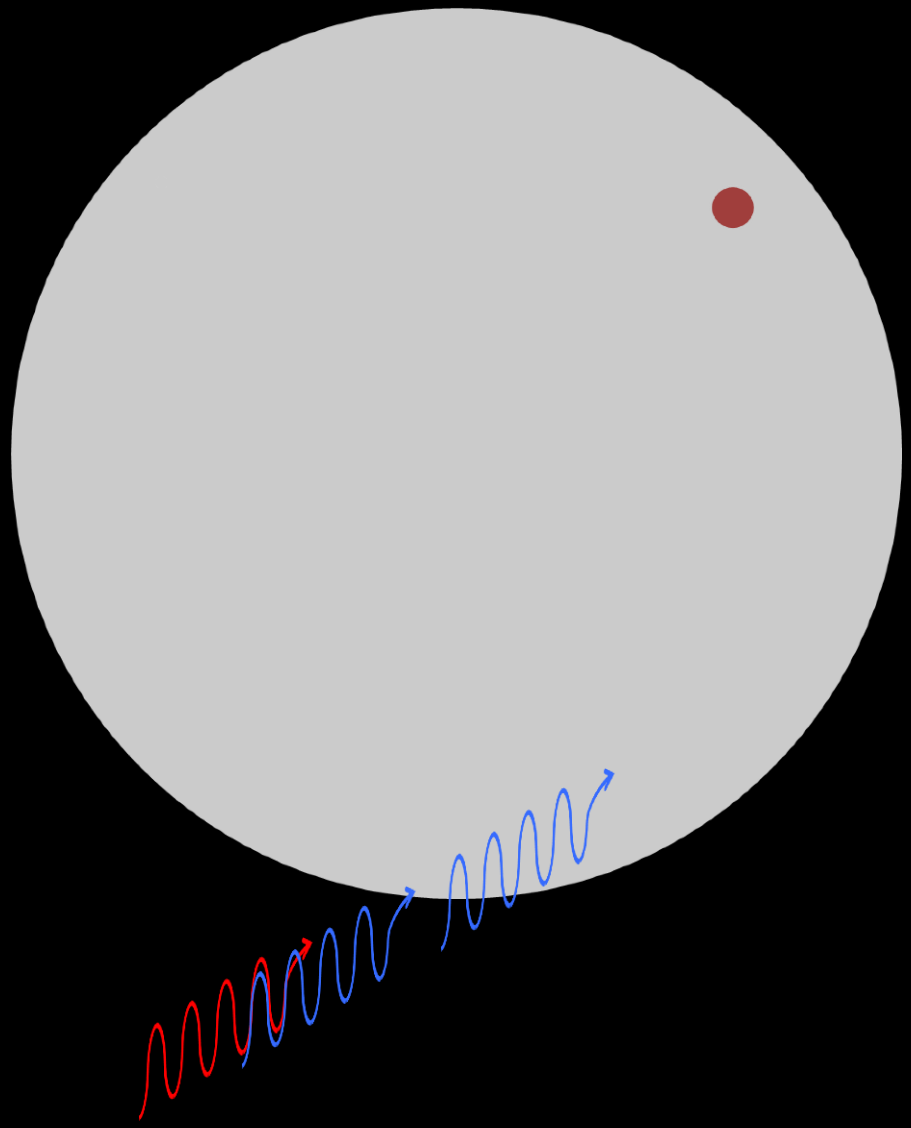
Experimental Apparatus:
Longitudinal Doppler Effect



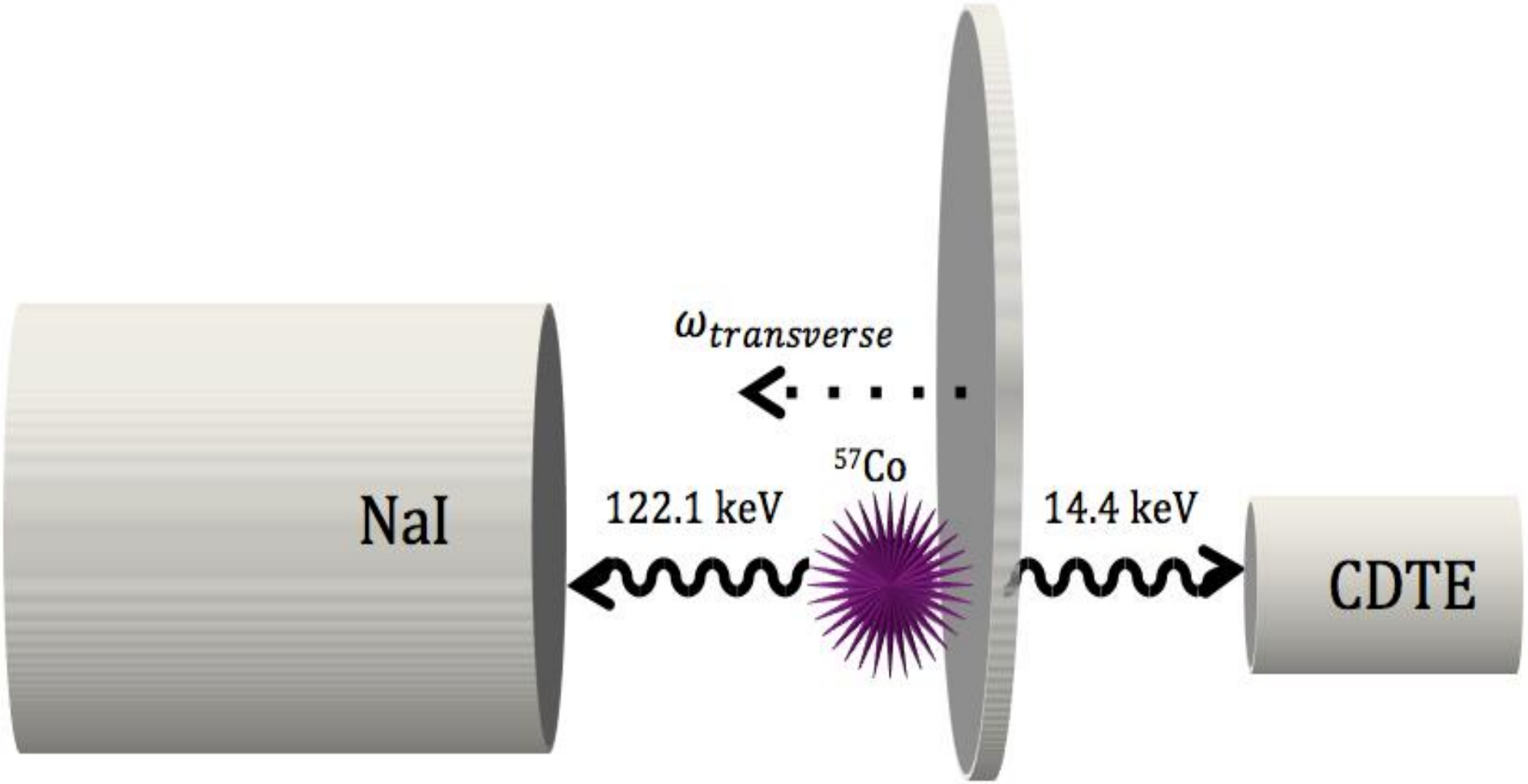
Experimental Apparatus: Longitudinal Doppler Effect



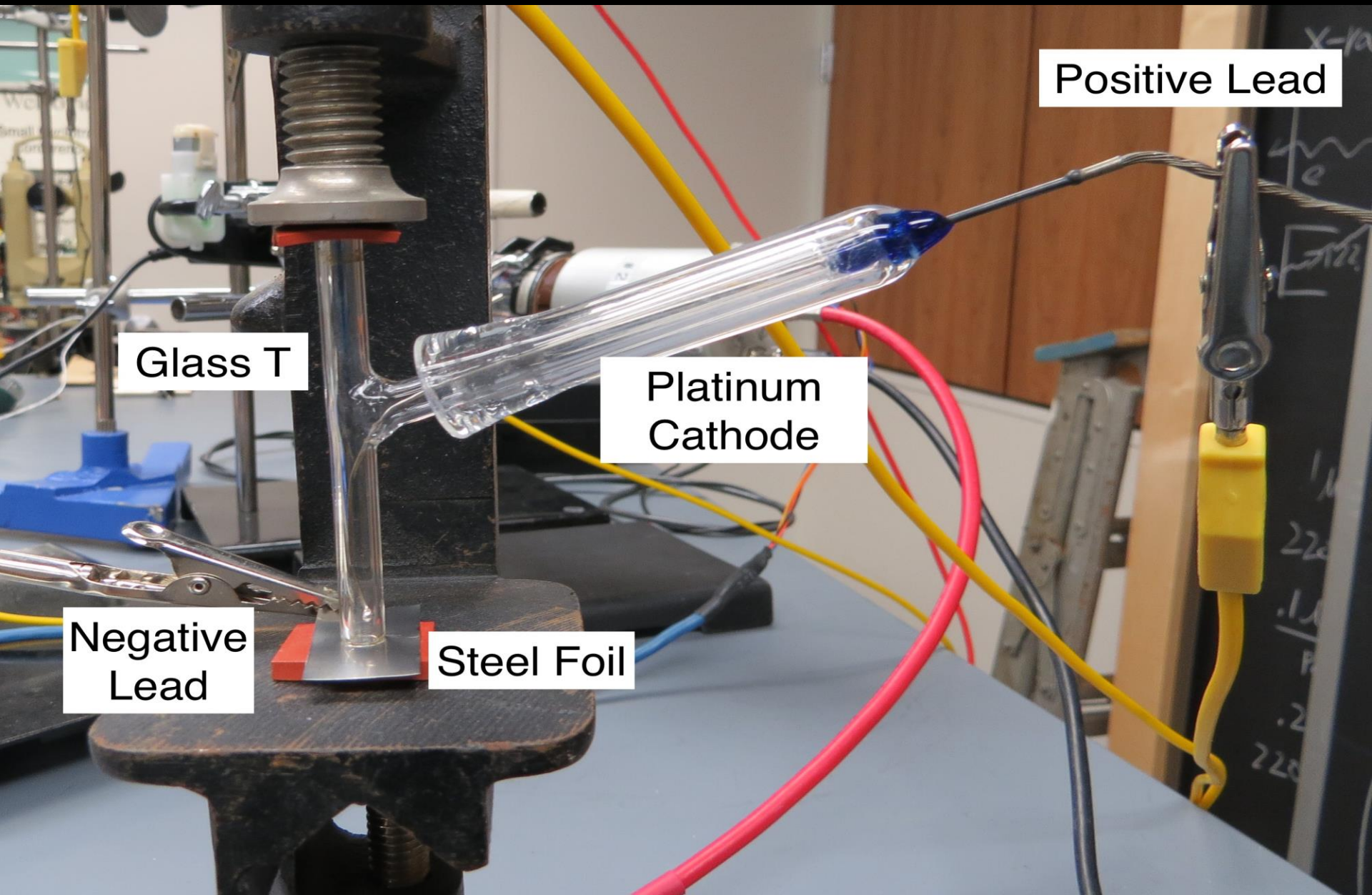
The Transverse Doppler Effect with the Mössbauer Effect



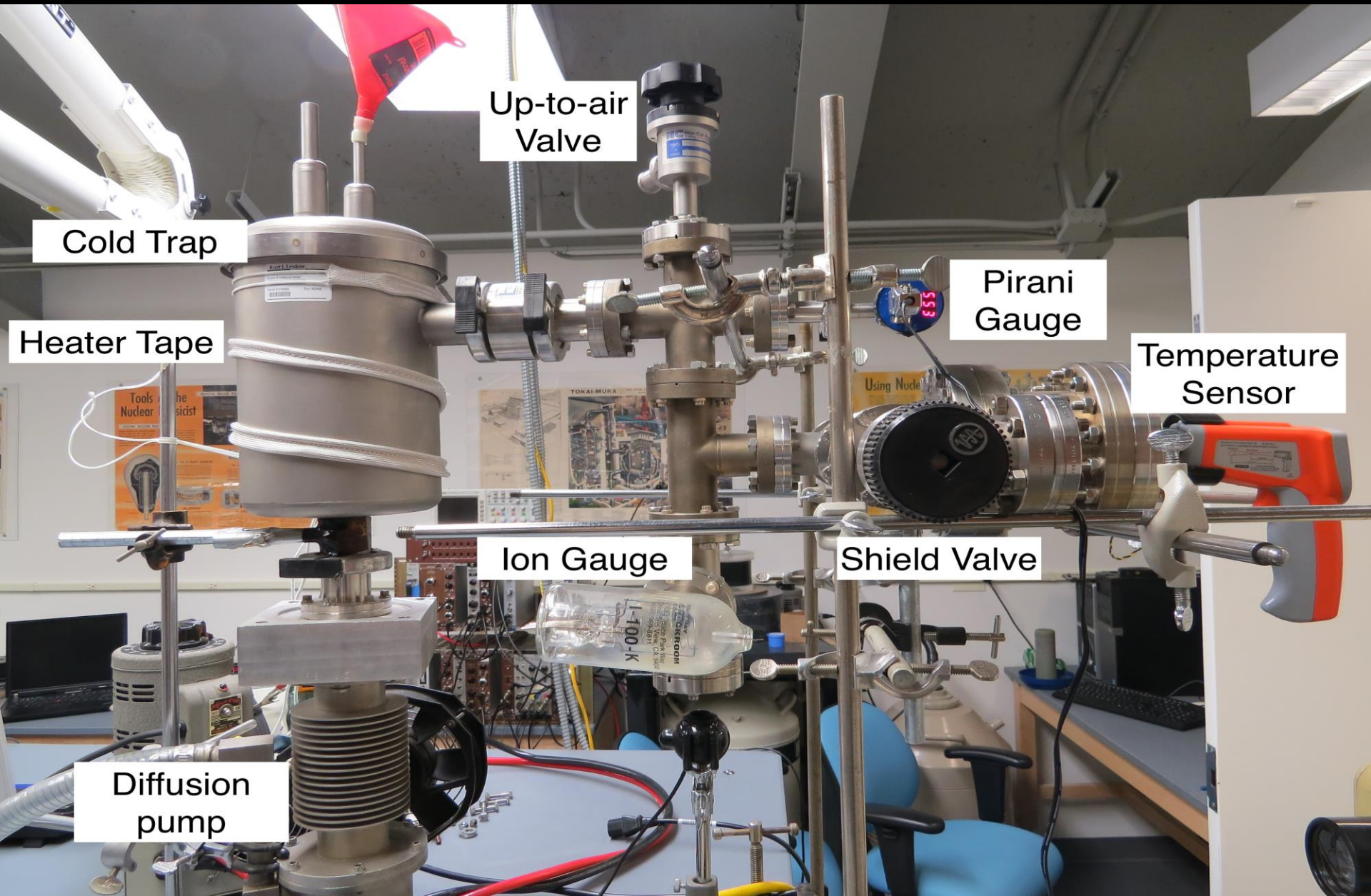
Experimental Apparatus:
Transverse Doppler Effect



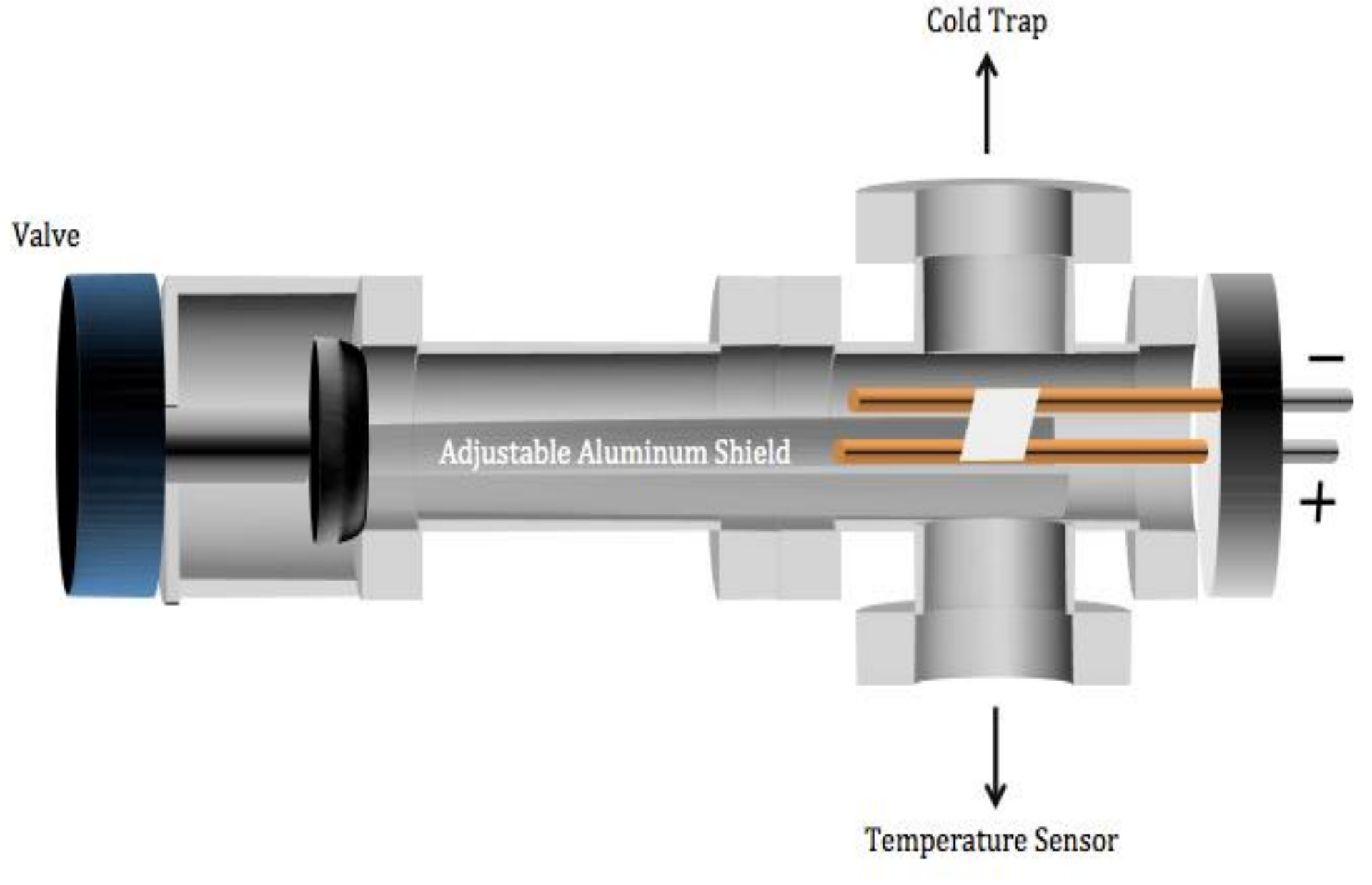
Experimental Apparatus:
Electroplating Apparatus



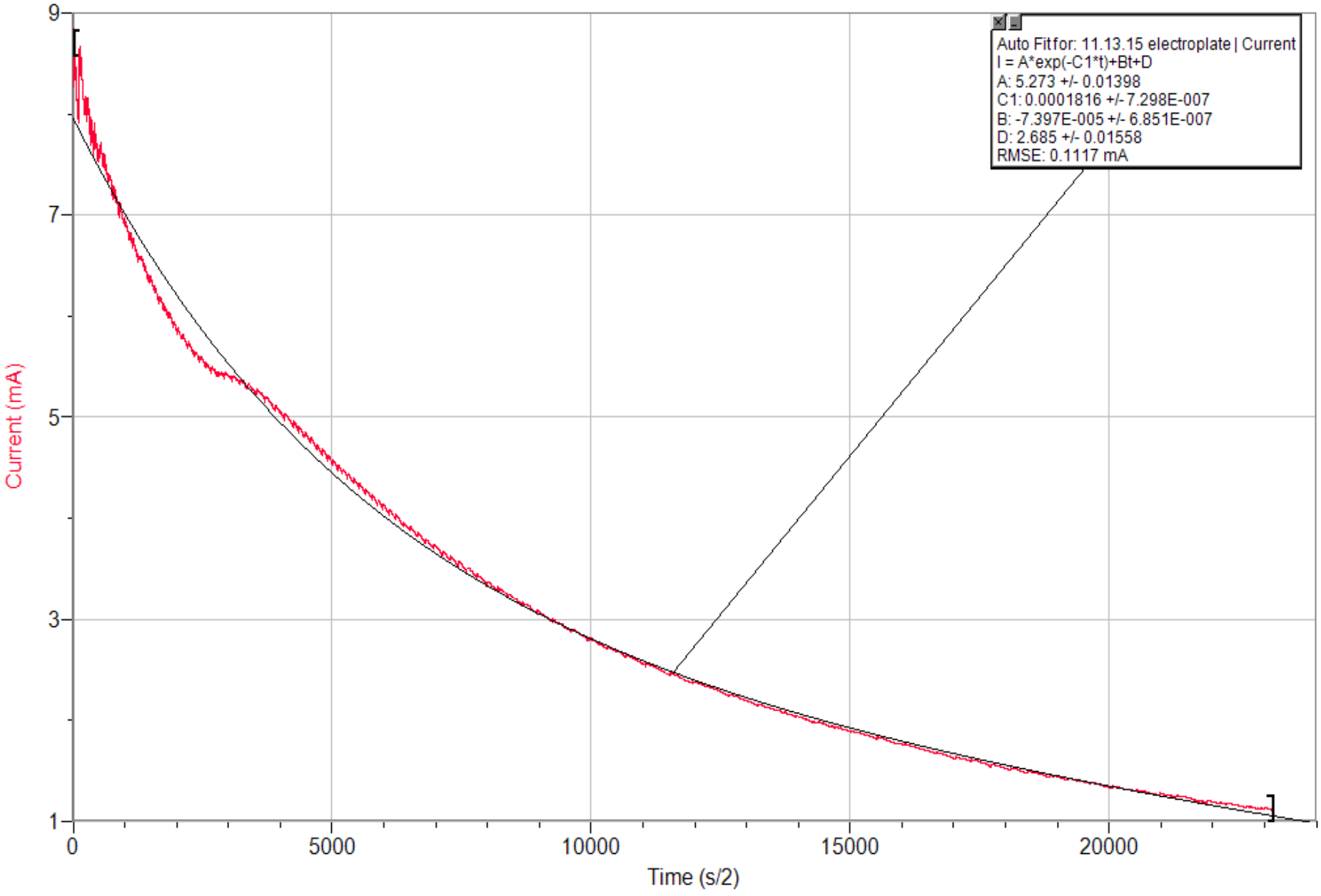
Experimental Apparatus: Diffusion System



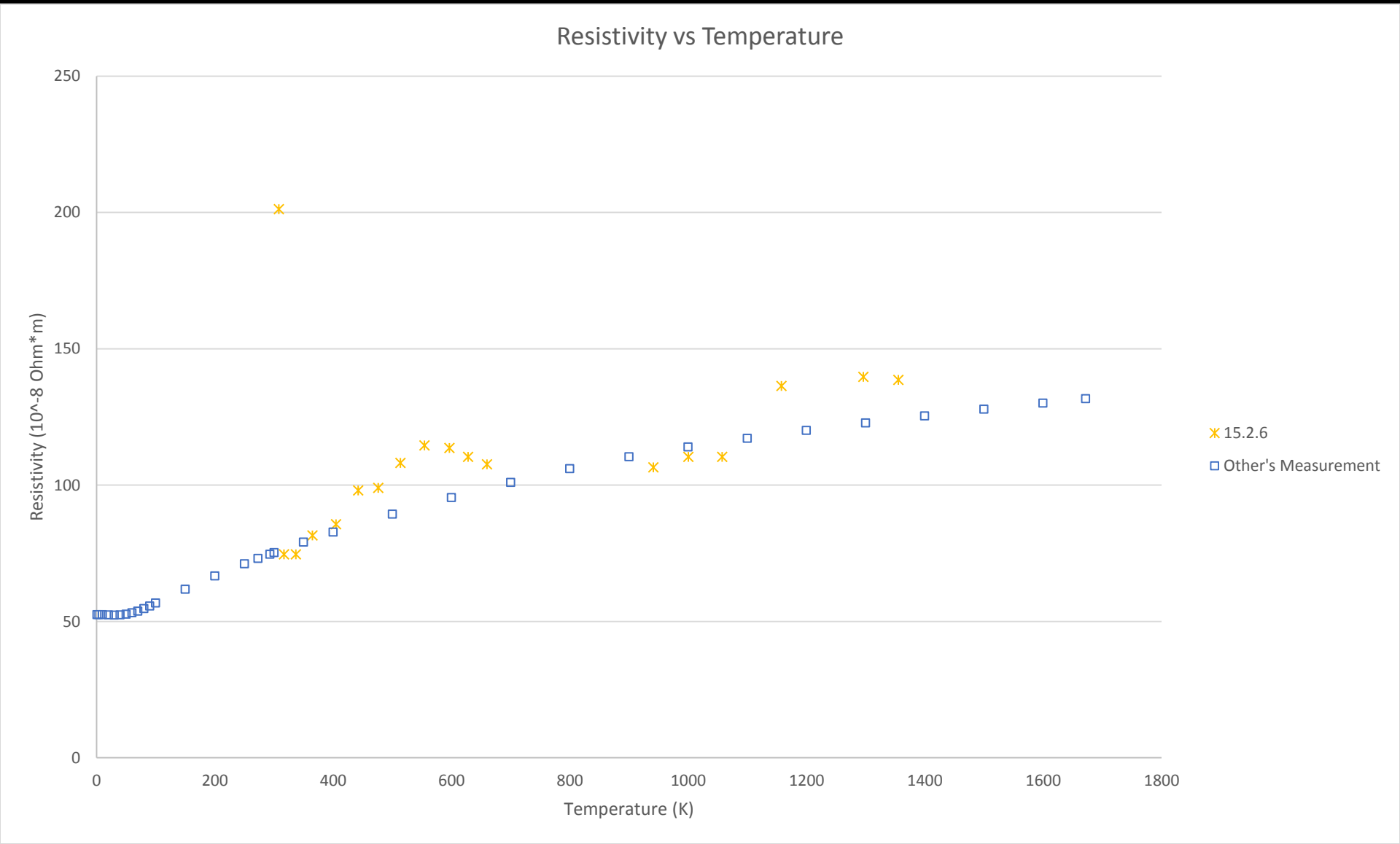
Experimental Apparatus: Diffusion System



Results:
Electroplating



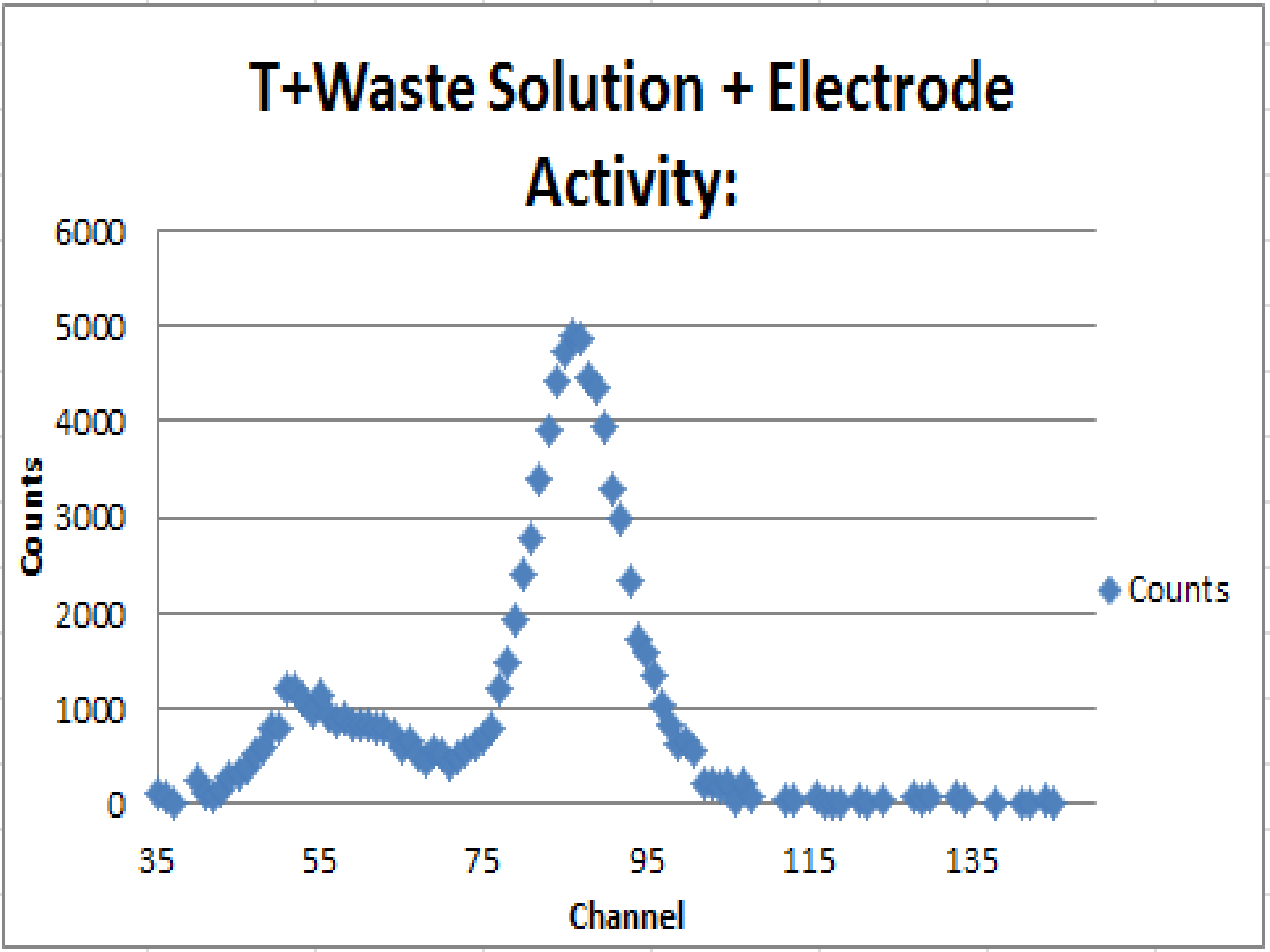
Results:
Diffusion

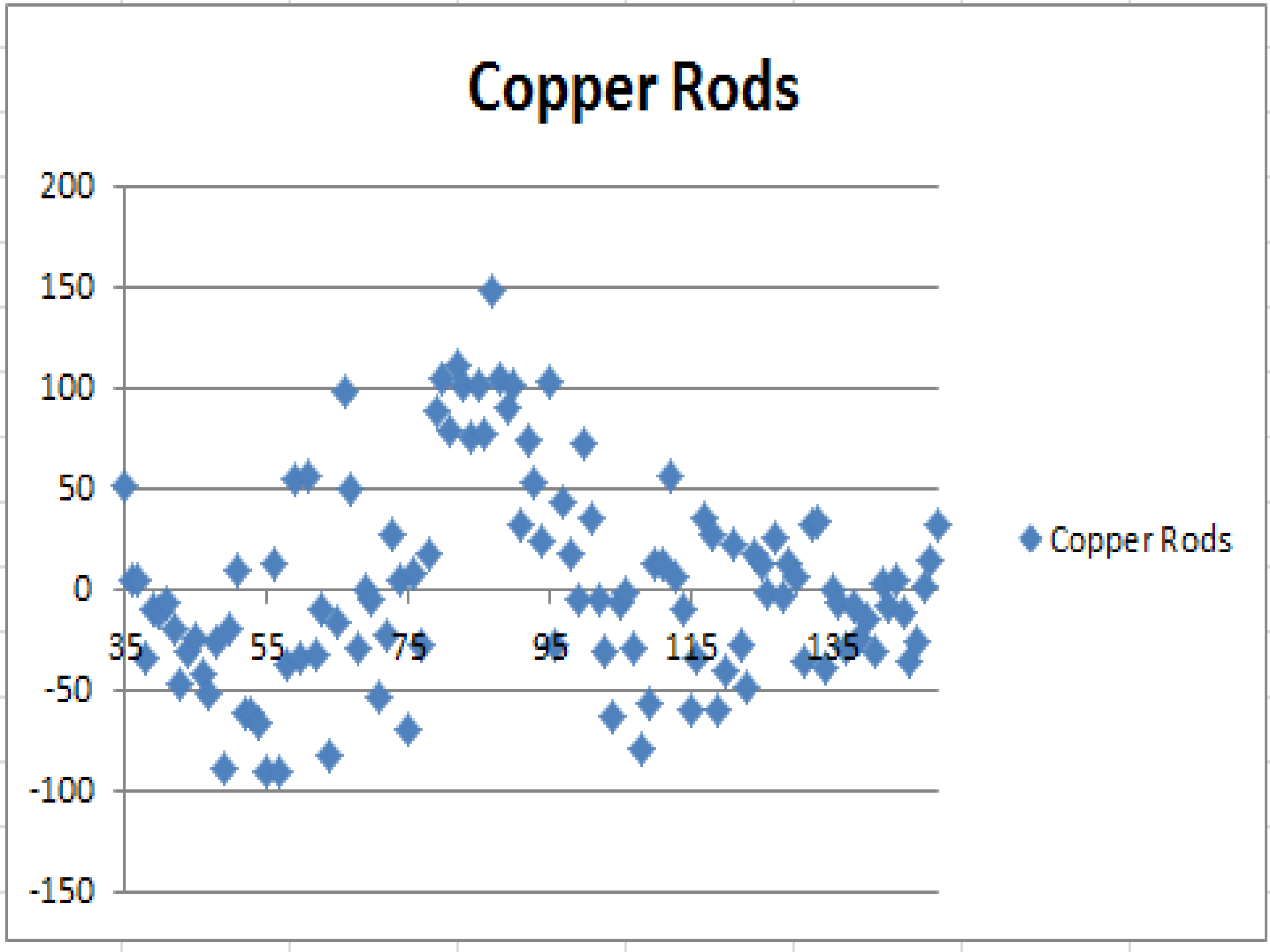


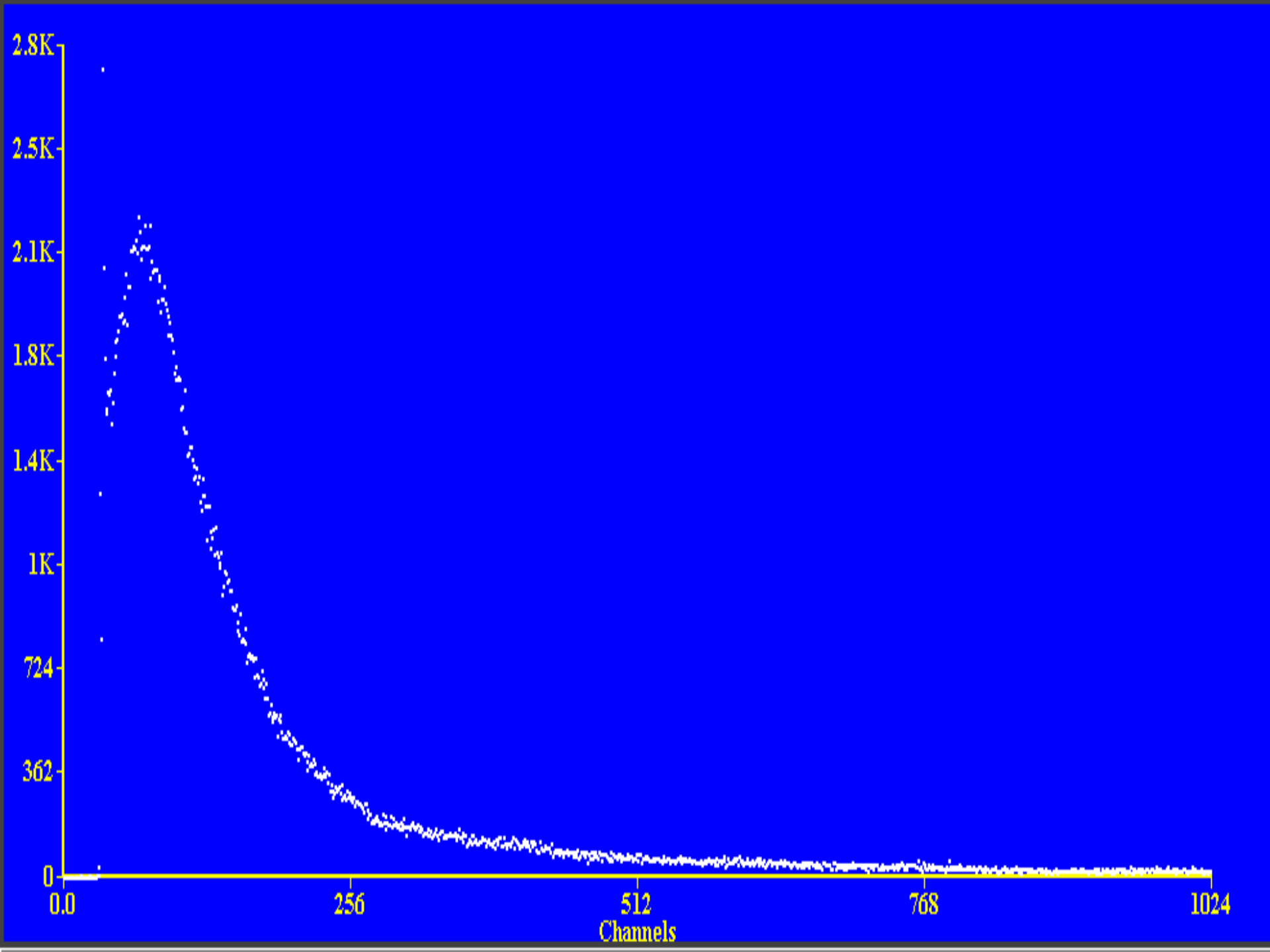
Results:
Radioactive Source

Methods	Net % of Used Solution Electroplated	Radioactivity (nCi)
Radioactive Spectroscopy	77.52	271
Charge Electroplated	82.38	160
Change in Mass	76.81	149

Questions?


T+Waste Solution + Electrode Activity:
6000
5000
4000
3000
2000
1000
0
Counts
35
55
75
95
115
135
Channel
Counts


Copper Rods
200
150
100
50
0
-50
-100
-150
35
55
75
95
115
135
Copper Rods


2.8K
2.5K
2.1K
1.8K
1.4K
1K
724
362
0
0.0
256
512
768
1024
Channels