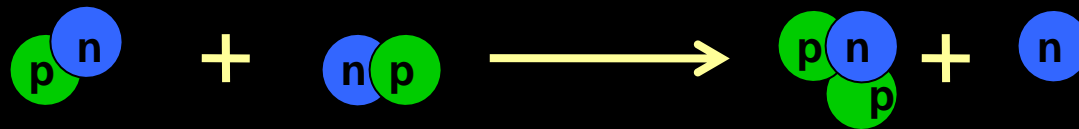
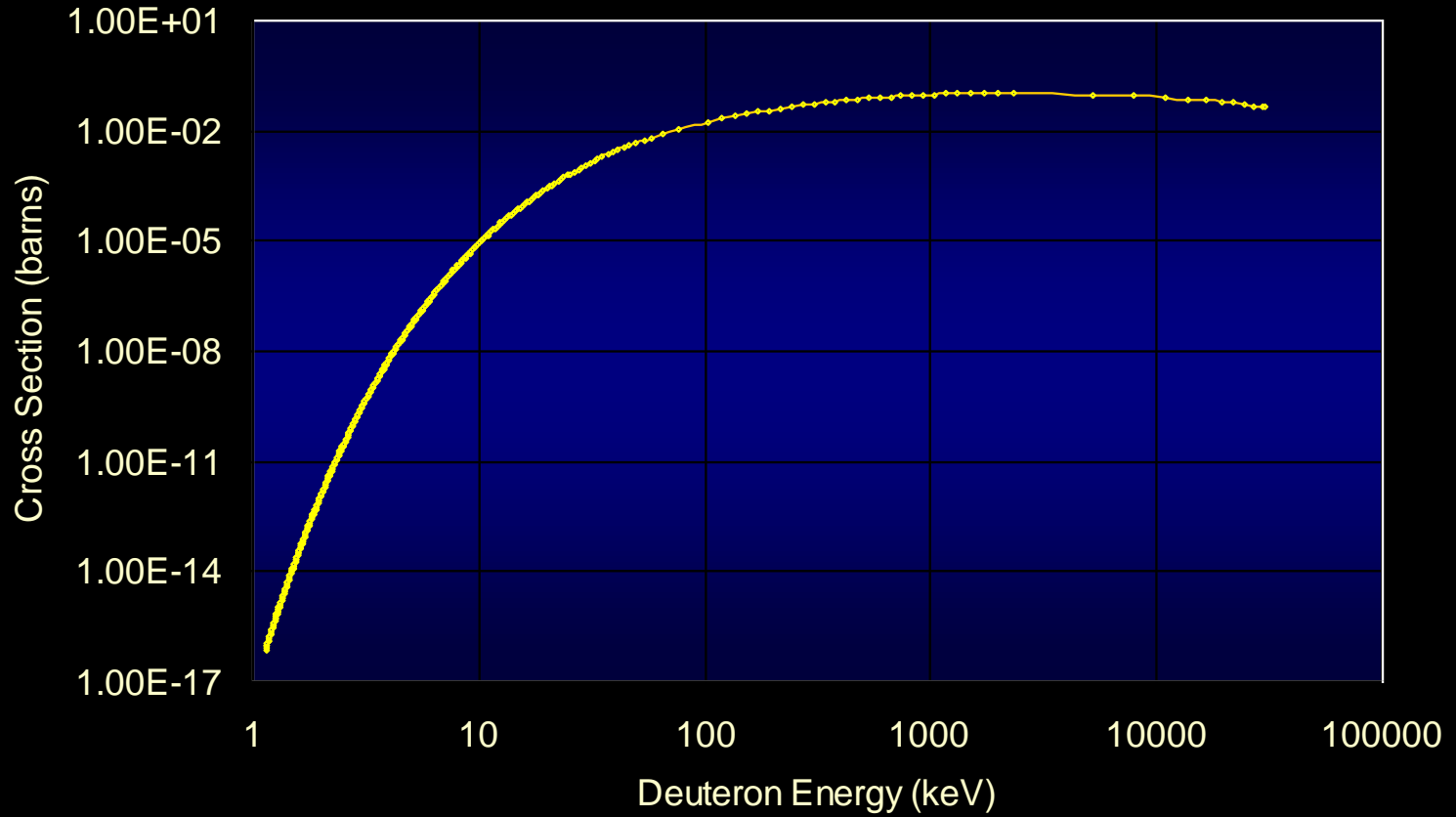


# The Design and Construction of a Small Cyclotron

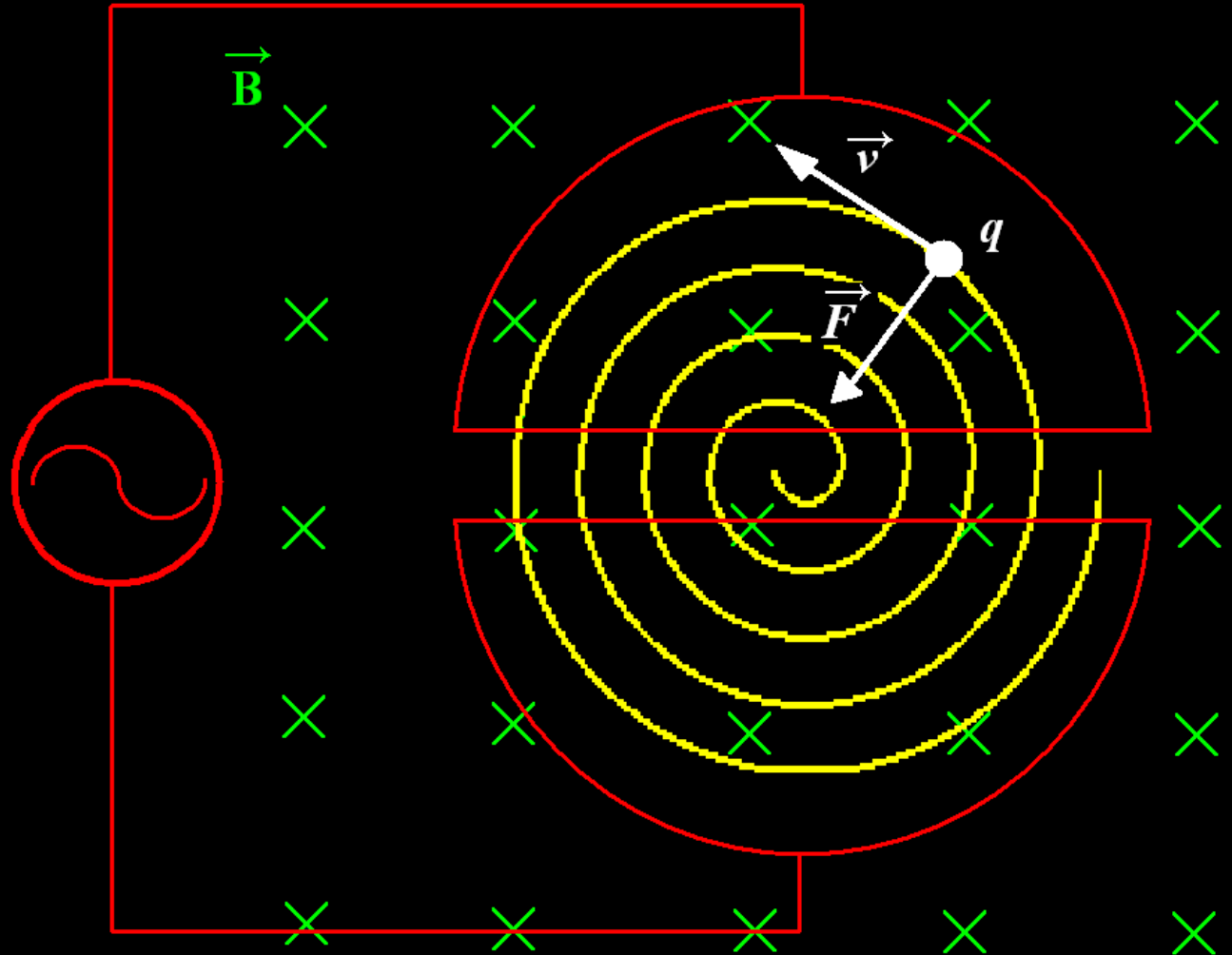
Mickael Cressman, Mark Yuly  
Houghton College  
Department of Physics

# Cross Section vs. Incident Deuteron Energy

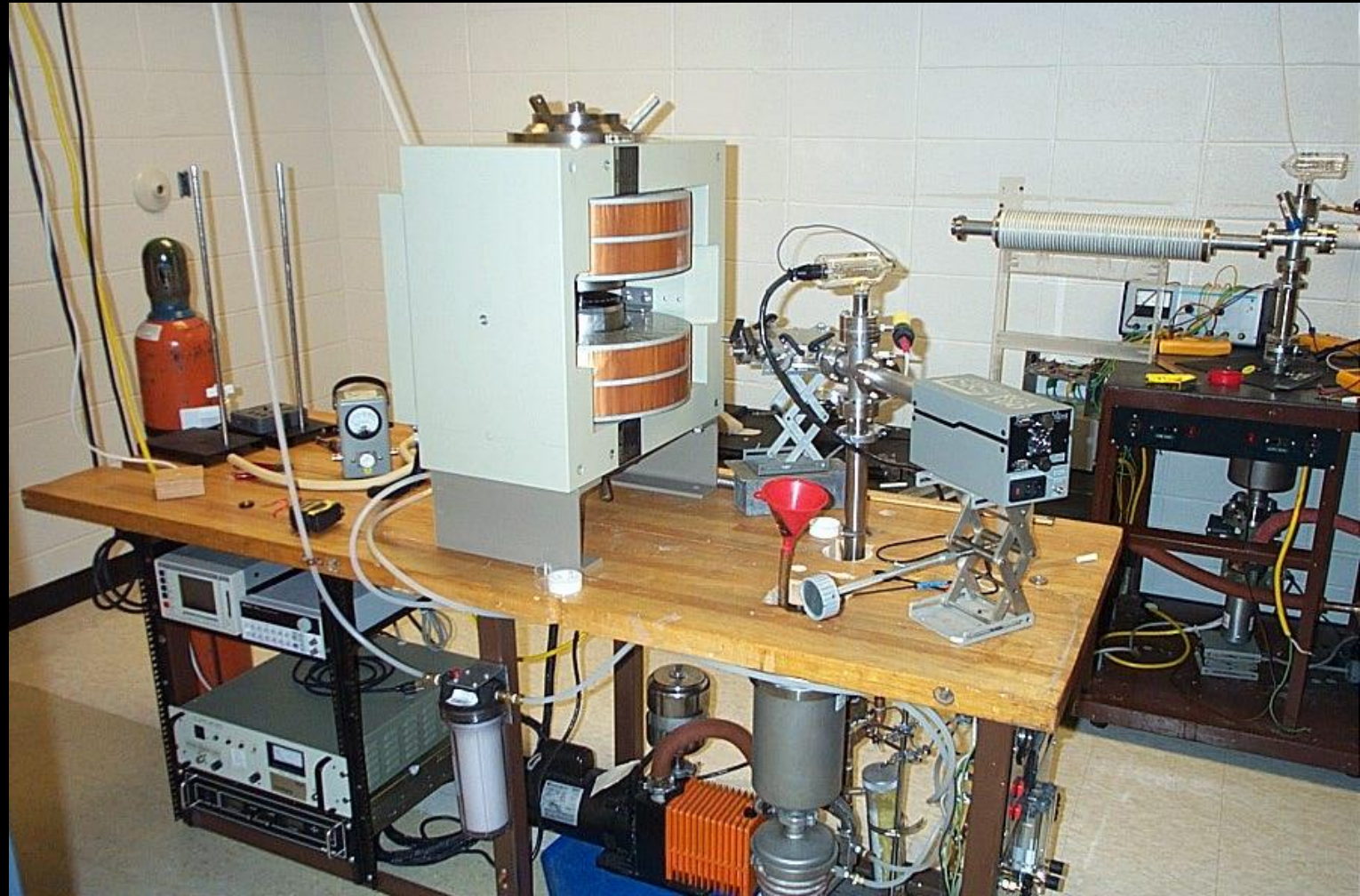


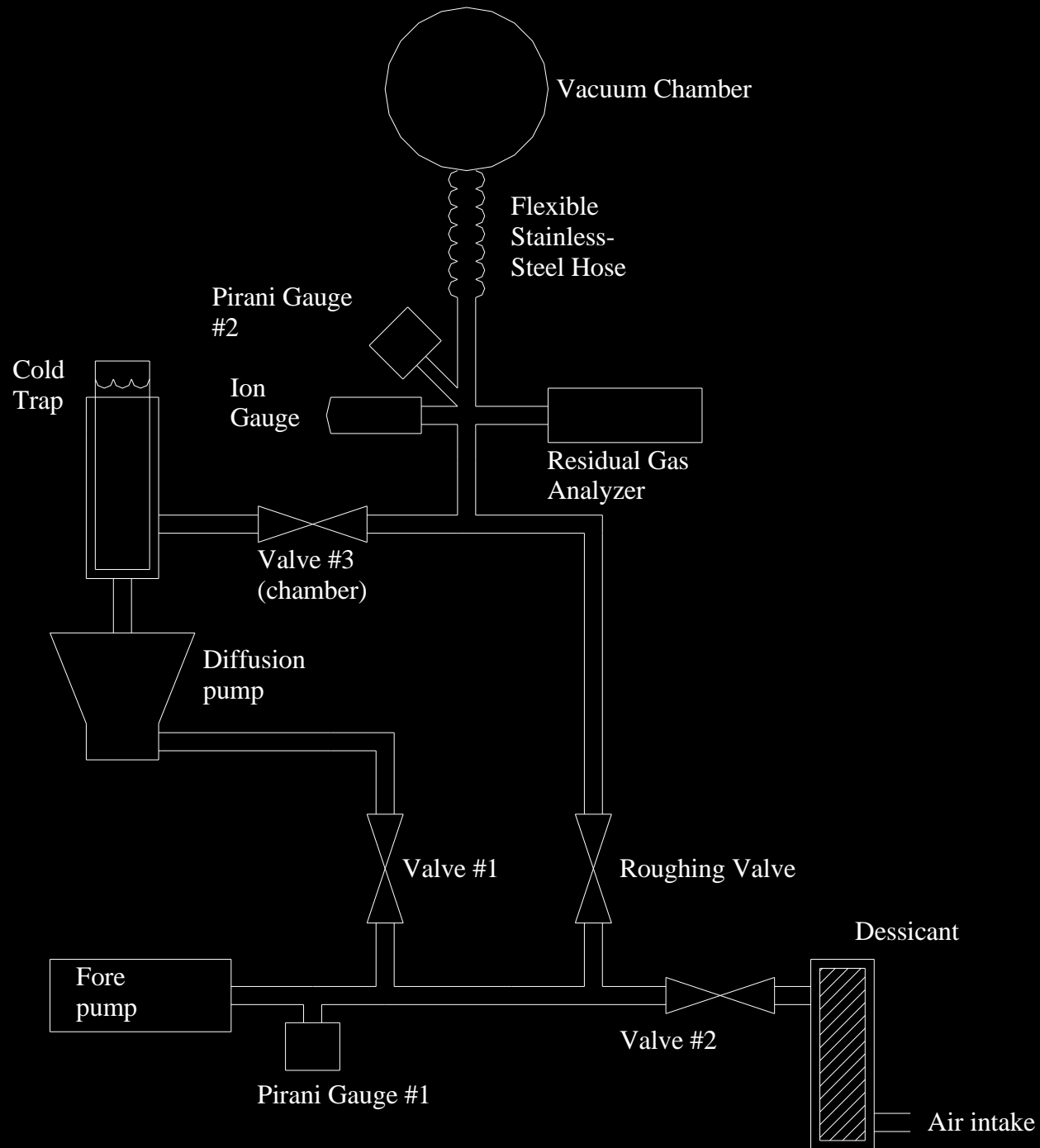
# What is a Cyclotron?

$$\vec{F} = q\vec{v} \times \vec{B}$$



# Houghton Cyclotron

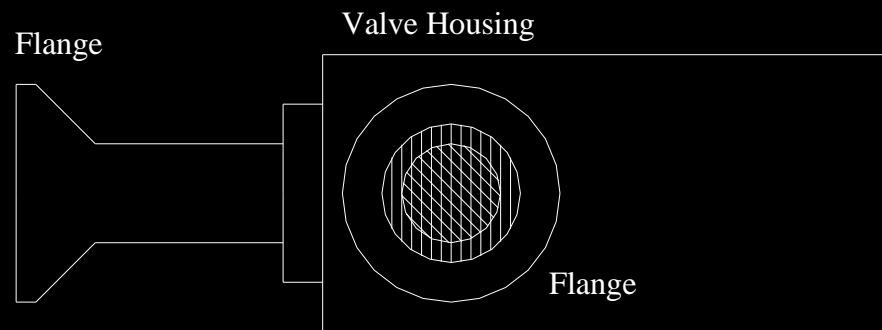
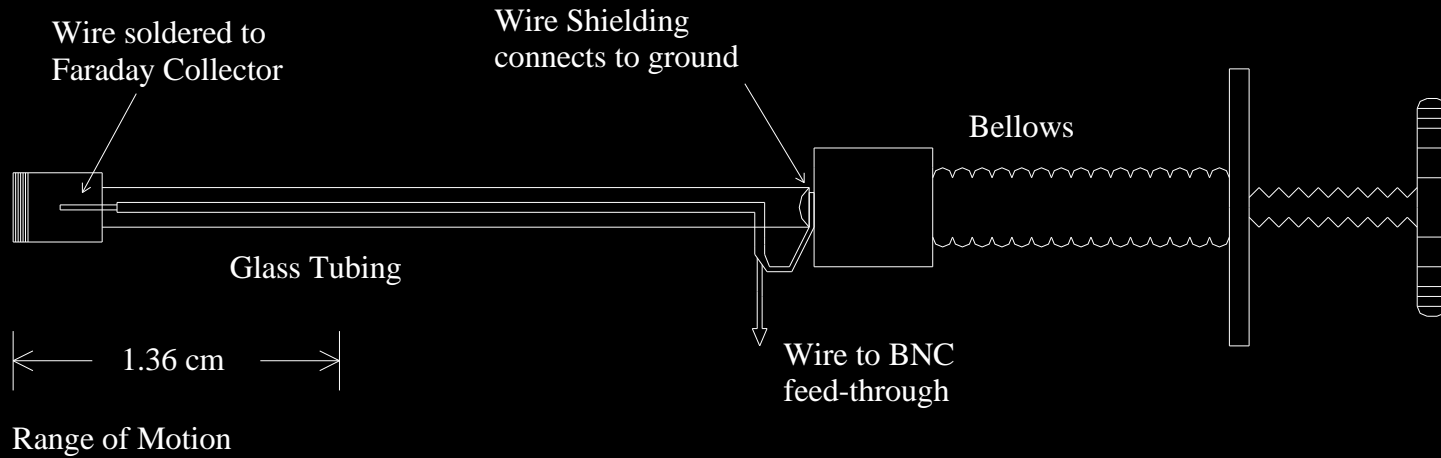




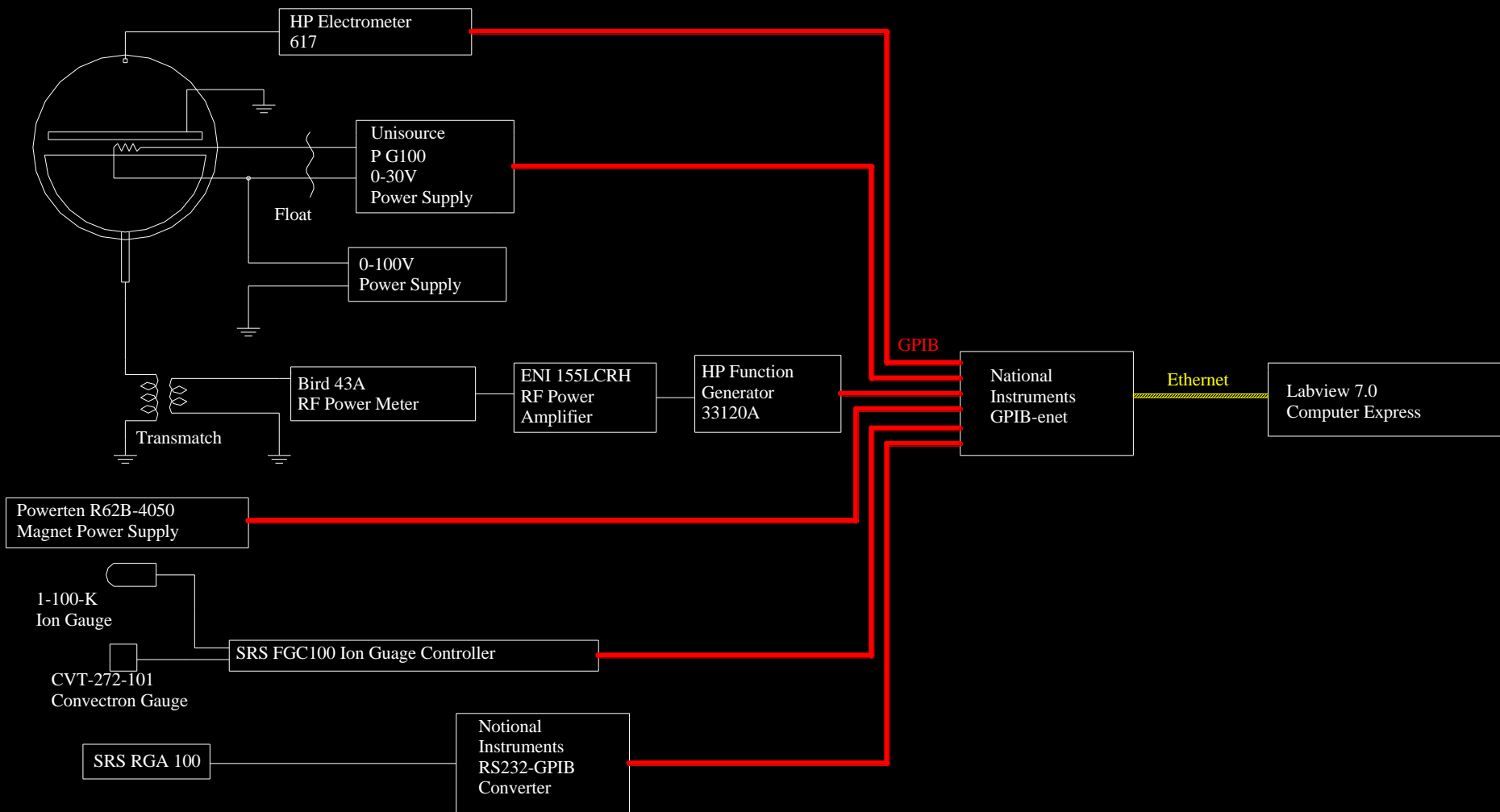
# Chamber



# Faraday Collector

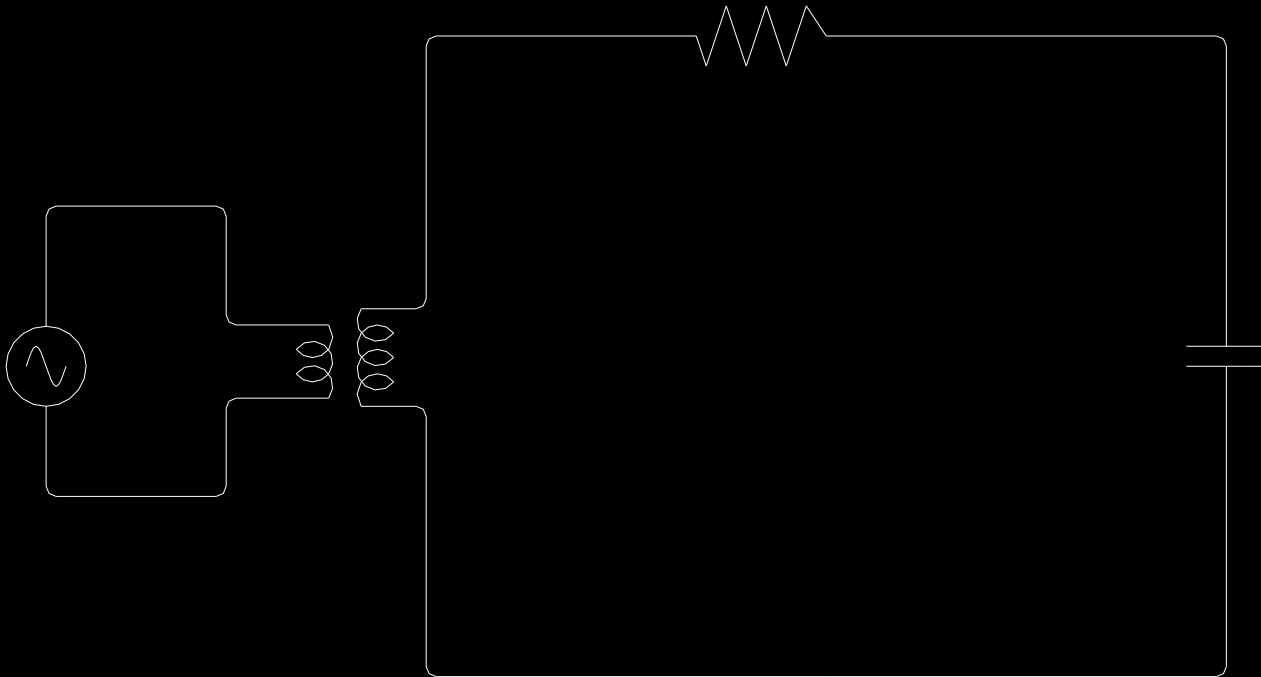


# Electronics

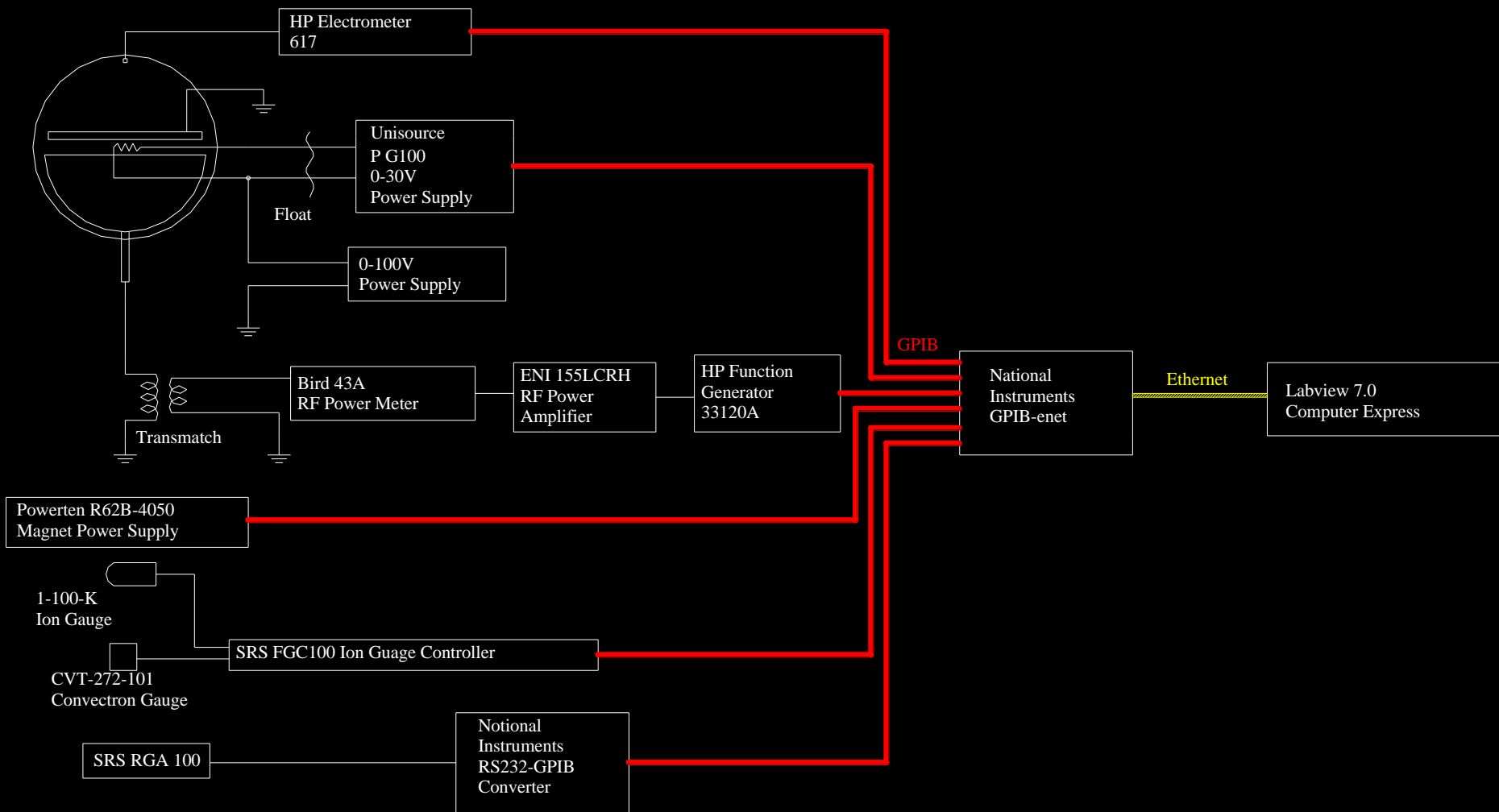




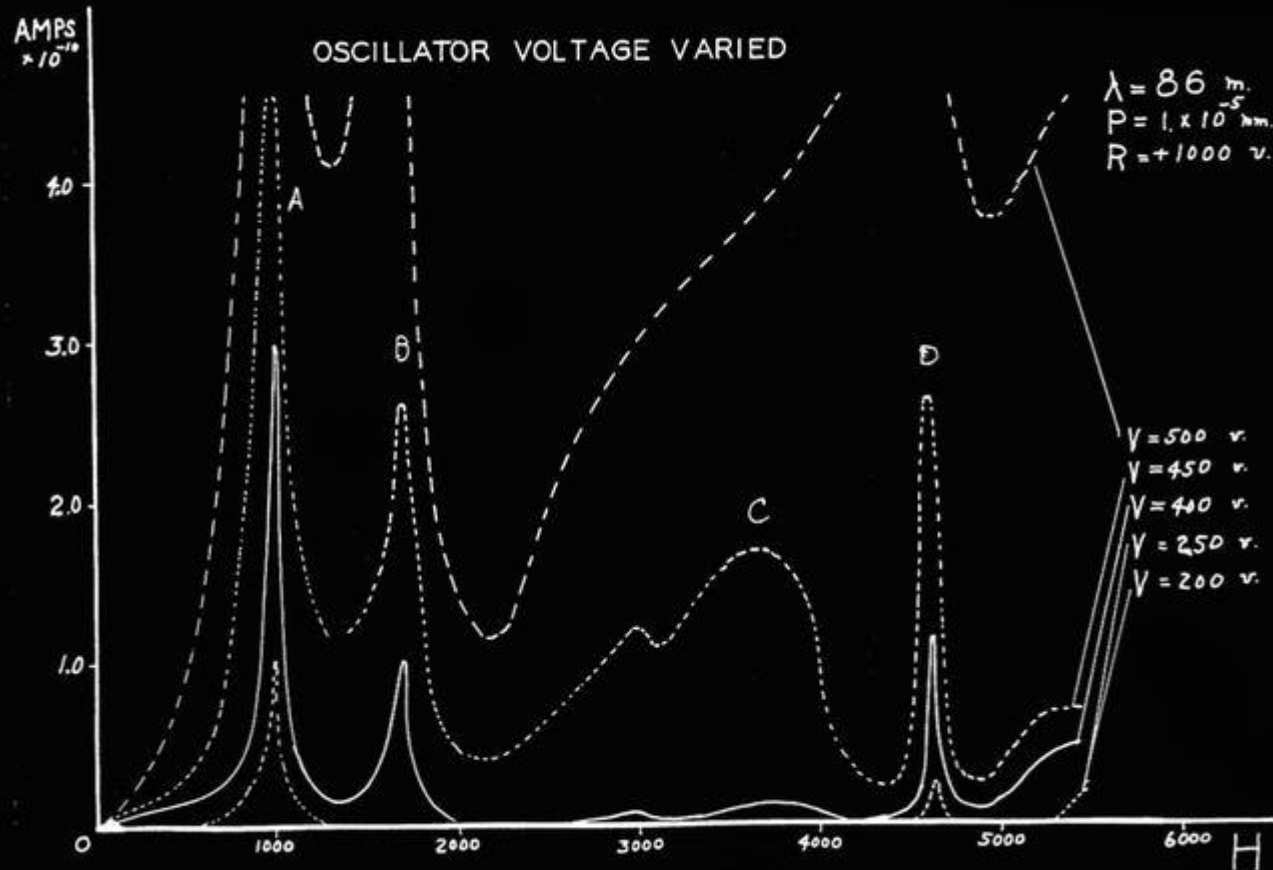
# LCR Circuit



# Electronics



# Expected Results



# Summary

- Finished

  - Magnet

  - Vacuum

  - Cooling

  - Ion Source

  - Chamber

  - Electronics

- Build LCR circuit

# Future Plans

- Shimming
- Larger chamber
- Higher field
- Neutron production