

RUT - Rutherford Scattering

Signature Sheet

Student's Name _____ Partner's Name _____

Before the Lab

You must watch the Radiation Safety video, and get a Radiation Ring before you use the apparatus in this experiment. View the Rutherford video about this experiment online.

Ring # _____ Issued (Date and Signed) _____ Returned (Date and Signed) _____

Pre-Lab Discussion Questions

It is your responsibility to discuss this lab with an instructor before your first day of your scheduled lab period. This signed sheet must be included as the first page of your report. Without it you will lose grade points. You should be prepared to discuss at least the following before you come to lab:

1. Describe Rutherford scattering. Read the following: Book by A. C. Melissinos, "Experiments in Modern Physics", Academic Press, New York, 2003, the section on Rutherford Scattering.
2. What is the Rutherford scattering formula? Define or explain each of the terms in the formula. What is a scattering cross section? How is the cross section related to what you actually measure in the experiment?
3. Why is it difficult to obtain data at large scattering angles?

Staff Signature _____ Date _____

Completed before the first day of lab? (Circle one) Yes / No

Mid-Lab Discussion Questions

1. By day 4 you should have enough data to demonstrate the angular dependence of Rutherford scattering. Show it to an instructor and ask for a signature.

Staff Signature _____ Date _____

Completed by day 4 of lab? (Circle one) Yes / No

Checkpoint Signatures

1. PN Detector

Staff Signature _____

2. Signals

Staff Signature _____

3. Measurements

Staff Signature _____

4. Trial Run Analysis

Staff Signature _____

5. Spectrum

Staff Signature _____