

X-RAY CRYSTALLOGRAPHY (XRA)

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Watch the [X-Ray Video](#) about the ExperimentAlso you must watch the [Radiation Safety](#) video, *and* get a *Radiation Ring* before you use this apparatus.

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

Your Report will not be accepted until you have turned in your ring.

Student's Name _____

Partner's Name _____

Pre-lab Discussion Questions

It is your responsibility to discuss this lab with a professor or GSI on the first day of your scheduled laboratory period. This signed sheet must be included as the first page of your report. Without it you will lose 1/3 of a letter grade. You should think about and be prepared to discuss at least the following before you come to lab:

1. What are X-Rays? Why do we use x-rays to examine crystal structures? How are the x-rays in this experiment produced? How do the X-Rays used in the Back Laue and Powder Methods differ?
2. What is Bragg's law? How does it pertain to the following questions?
 - a) In the Back Laue method of spectroscopy, why do we see dots?
 - b) In the Powder method, why do we see lines?

Staff Signature _____ Date _____

Completed on the *first* day of lab? (circle) Yes / No**Mid-lab Questions**

On day 5 of this lab, you should have successfully produced a picture of the 111 orientation. Show it to a GSI and ask for a signature.

Staff Signature _____ Date _____

Completed on the *fifth* day of lab? (circle) Yes / No**INCLUDE THIS SHEET AS THE FIRST PAGE OF YOUR REPORT**

<i>Physics 111 Advanced Lab Student Evaluation of Experiment</i>

Now that you have completed this experiment, we would appreciate your comments. Please take a few moments to answer the questions below, and feel free to add any other comments. Since you have just finished the experiment it is *your* critique that will be the most helpful. Your thoughts and suggestions will help to change the lab and improve the experiments.

Please be as specific as possible, using both sides of the paper as needed, and turn this in with your report. Thank you!

Experiment name: _____ Date: _____

How was the write-up for this experiment? How could it be improved?

How easily did you get started with the experiment? What sources of information were most/least helpful in getting started? Were the reprints appropriate? Did the Pre-lab discussion help? Did you need to go outside the course materials for assistance? What additional materials could you have used?

What did you like and/or dislike about the experiment?

Would you recommend this lab to fellow student? Why or why not?

What advice would you give to a friend just starting this experiment?

Did you get this write up from the 111-Lab WEB site or a copy. _____

Please circle the abbreviations of the other labs you have done.	Overall quality of this experiment?
ATM BRA BMC COM CO ₂ GMA HAL HOL	1 2 3 4 5
JOS LIF LLS MNO MOT MUO NLD	Poor Average Good
NMR OPT OTZ RUT SHE XRA	