

# JOS - Josephson Junction

## Signature Sheet

Student's Name \_\_\_\_\_ Partner's Name \_\_\_\_\_

### 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. What is a Josephson Junction?
2. What is a Cooper Pair?
3. How does the DC Josephson effect work? What is the AC Josephson effect? How are they useful?
4. Why is it important to know the number  $2e/h$ ; what does it mean?
5. How do you construct the Josephson Junction used in this experiment? (Hint 4 wire junction)
6. Explain how you remove the junction assembly from the probe and put it back in.

Staff Signature \_\_\_\_\_ Date \_\_\_\_\_

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

### Mid-Lab Discussion Questions

1. On day 3 of this lab, show your photo of the DC effect with calibrated axis and photo of the AC effect, with calibrated axis, to a GSI. Also you present your measured corrected value for  $2e/h$ , with uncertainty, to an instructor and ask for a signature.

Staff Signature \_\_\_\_\_ Date \_\_\_\_\_

Completed by day 3 of lab? (Circle one) Yes / No

## Checkpoint Signatures

1. Low-Frequency Oscillator

Staff Signature \_\_\_\_\_

2. Steps

Staff Signature \_\_\_\_\_

3. DC Effect

Staff Signature \_\_\_\_\_

4. AC Effect

Staff Signature \_\_\_\_\_

5. Precise Measurement of the RF Frequency

Staff Signature \_\_\_\_\_