

(a) Measurement of Intensity distribution of the Diffraction pattern.

Position of the detector is calculated as: Main Scale Reading + Vernier Scale Reading x Least Count
Least Count = 0.01 mm

| S. No. | Position of the detector (mm) | | Power (μA) |
|--------|-------------------------------|-----------------------|-------------------------|
| | Main Scale Reading | Vernier Scale Reading | |
| 1. | -5 | 0 | 0.0 |
| 2. | -5 | 63 | 0.1 |
| 3. | -5 | 85 | 0.3 |
| 4. | -4 | 16 | 0.4 |
| 5. | -4 | 52 | 0.5 |
| 6. | -3 | 9 | 0.3 |
| 7. | -3 | 22 | 0.2 |
| 8. | -3 | 34 | 0.1 |
| 9. | -3 | 60 | 0.0 |
| 10. | -3 | 89 | 0.1 |
| 11. | -2 | 1 | 0.4 |
| 12. | -2 | 36 | 0.7 |
| 13. | -2 | 69 | 3.5 |
| 14. | -2 | 97 | 5.2 |
| 15. | -1 | 26 | 7.7 |
| 16. | -1 | 58 | 10.4 |
| 17. | 0 | 0 | 11.7 |
| 18. | 0 | 15 | 11.7 |
| 19. | 0 | 44 | 11.4 |
| 20. | 0 | 74 | 10.0 |
| 21. | 0 | 95 | 8.1 |
| 22. | 1 | 15 | 6.6 |
| 23. | 1 | 55 | 2.7 |
| 24. | 1 | 89 | 1.5 |
| 25. | 2 | 14 | 0.5 |
| 26. | 2 | 53 | 0.0 |
| 27. | 2 | 97 | 0.1 |
| 28. | 3 | 12 | 0.3 |
| 29. | 3 | 25 | 0.5 |
| 30. | 3 | 50 | 0.7 |
| 31. | 3 | 90 | 0.8 |

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|-----|---|----|-----|
| 32. | 4 | 26 | 0.6 |
| 33. | 4 | 65 | 0.3 |
| 34. | 5 | 12 | 0.1 |
| 35. | 5 | 55 | 0.0 |

(b) Measurement of the width of the slit

Reading for both edge is calculated as: Main Scale Reading + Vernier Scale Reading x Least Count

Least Count = 0.01 mm

| S. No. | Reading for right edge | | Reading for left edge | |
|--------|------------------------|-----------------------|-----------------------|-----------------------|
| | Main Scale Reading | Vernier Scale Reading | Main Scale Reading | Vernier Scale Reading |
| 1. | 8.55 | 2 | 8.55 | 30 |
| 2. | 8.55 | 3 | 8.55 | 35 |
| 3. | 8.55 | 1 | 8.55 | 30 |