

Shot Noise and the Determination of Electron Charge e

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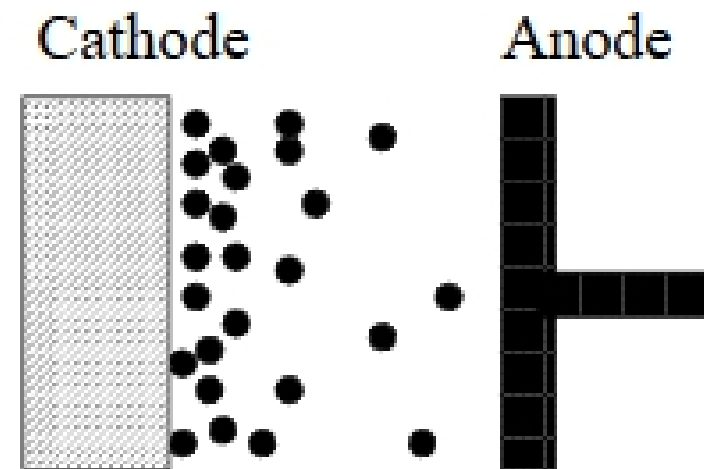
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Outline

1. History: Schottky and Noisy Circuits
2. Theory: Shot Noise
3. Experiment: Shot Noise Measurement Chain
4. Results: Obtained Value for e (within 2σ)
5. Error Analysis
6. Conclusions

History of Shot Noise Theory



- The term “shot noise” was first coined by Schottky in 1919.
- Shot noise is the fluctuating component of a current.
- Puts limit on the amount of amplification possible in an amplifier.