Quantum Mechanics and Quantum Computation

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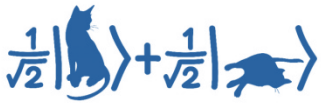
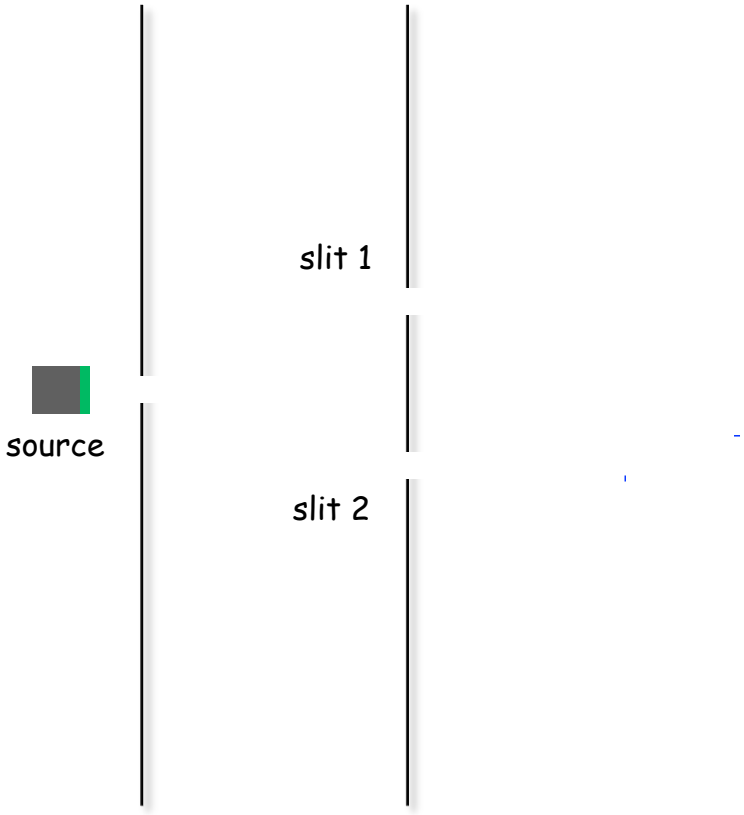


Lecture 1: Introduction

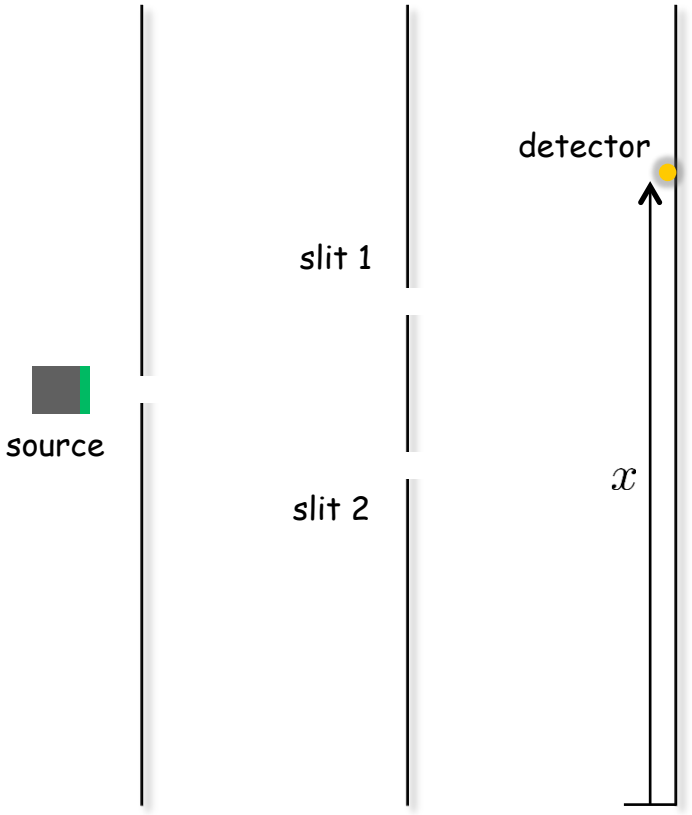
Double-slit experiment

Double-slit experiment



Double-slit experiment

Bullets



Double-slit experiment

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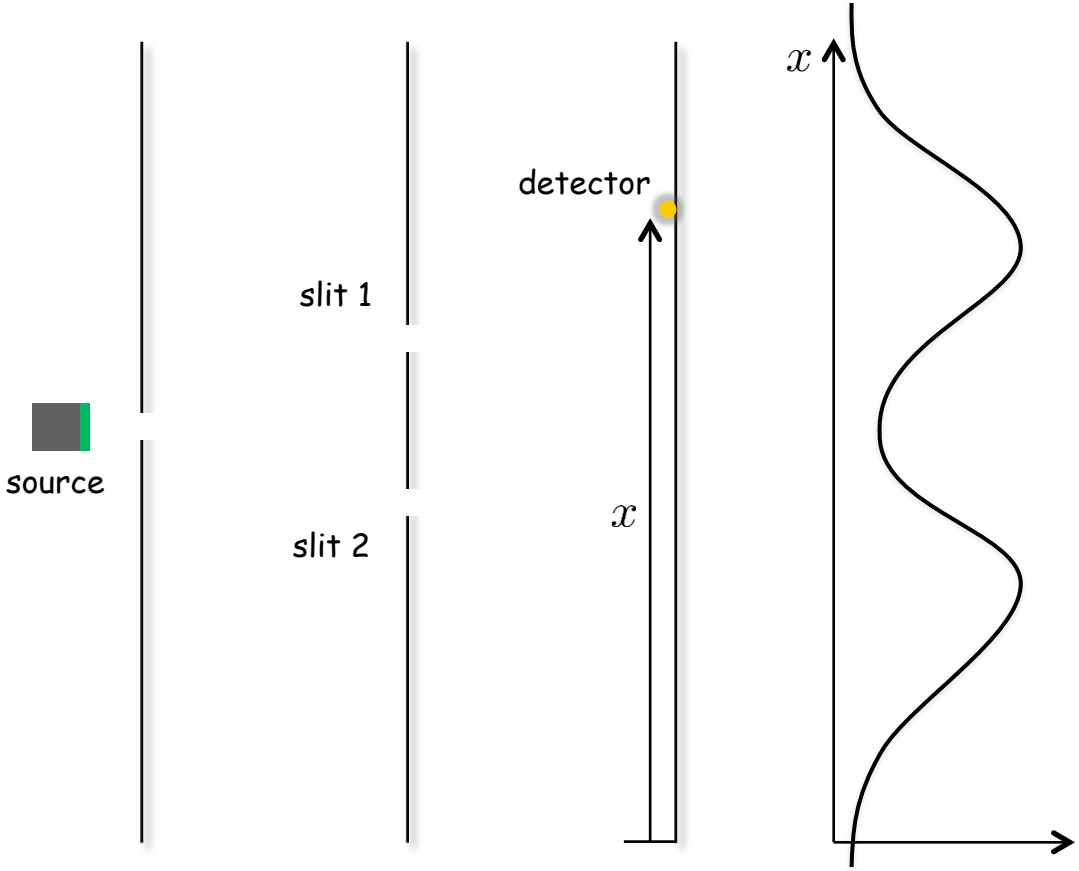

Double-slit experiment

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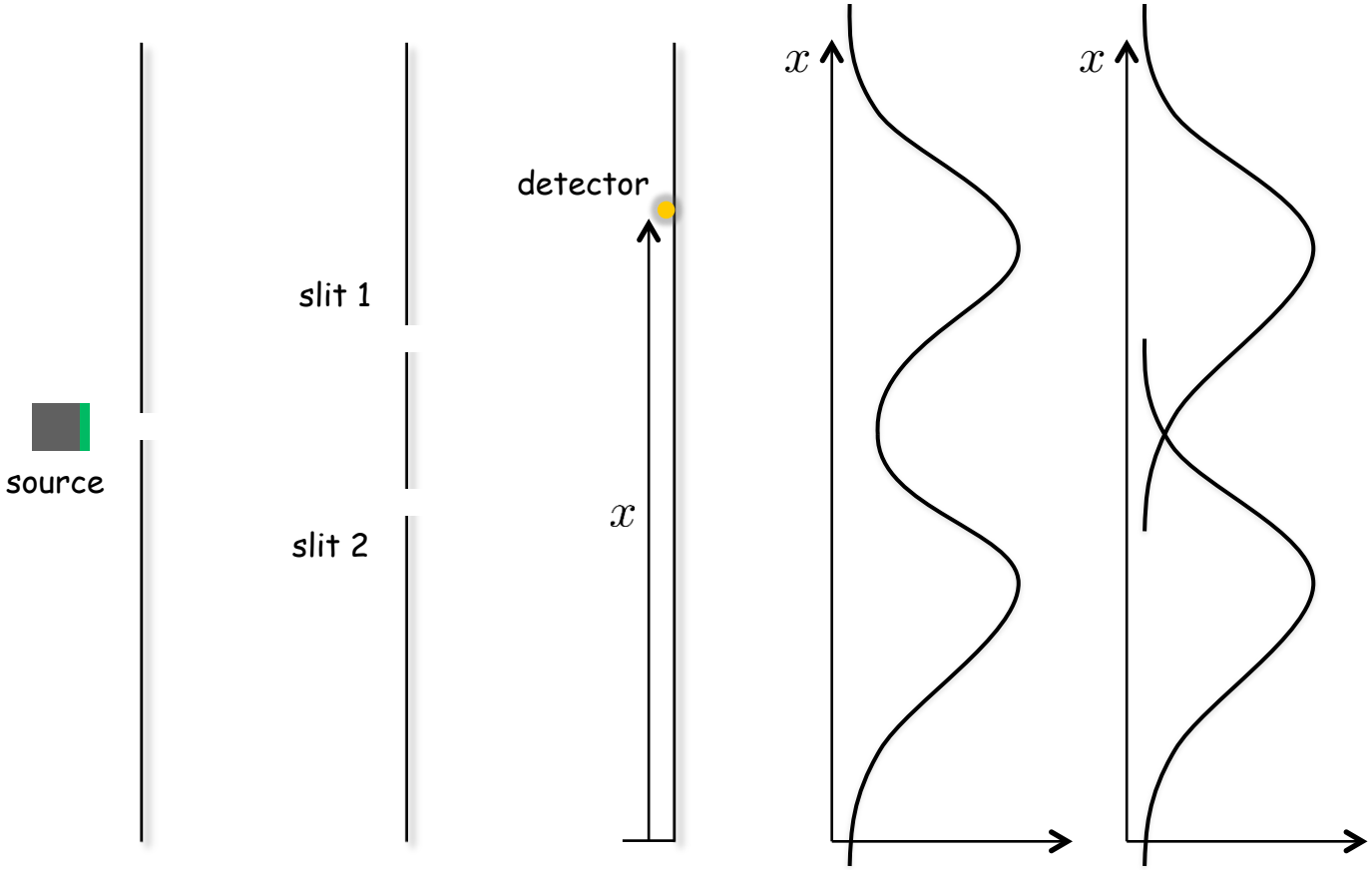
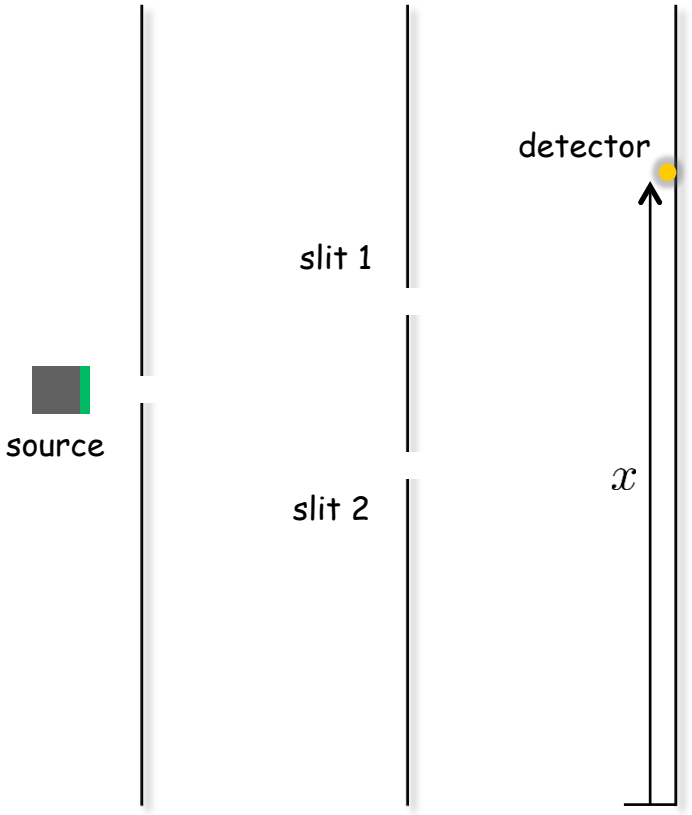


Double-slit experiment

Waves



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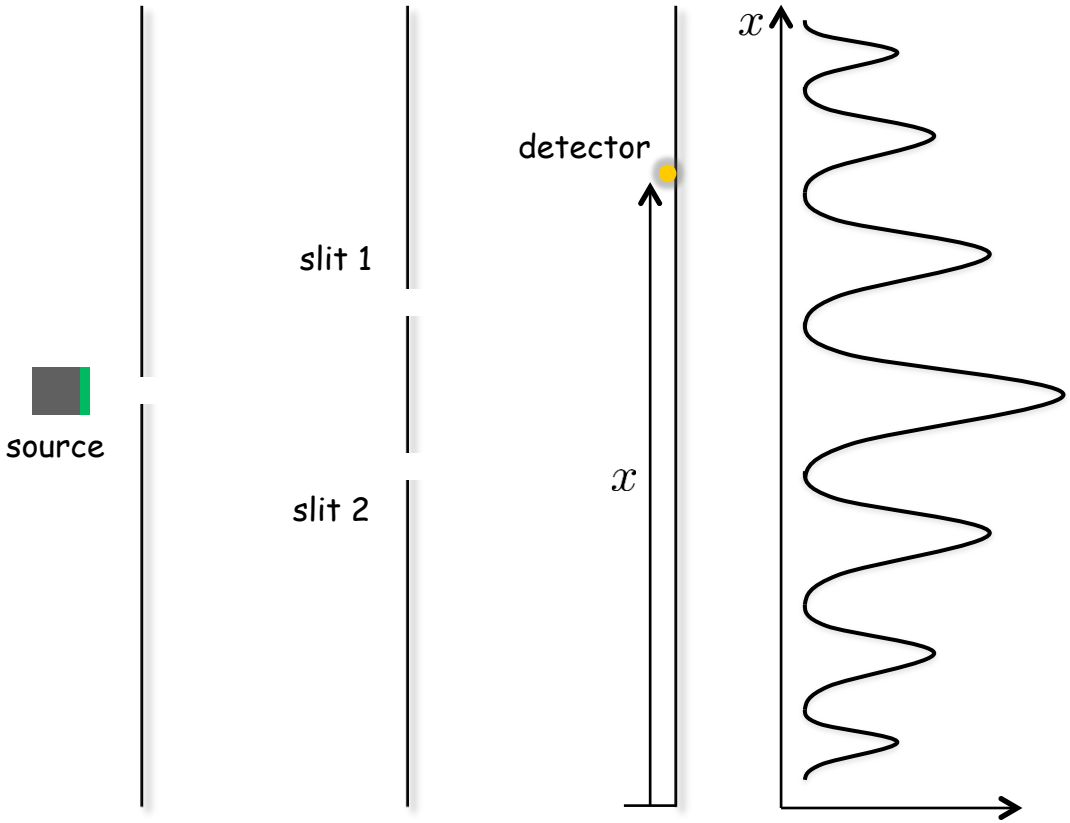
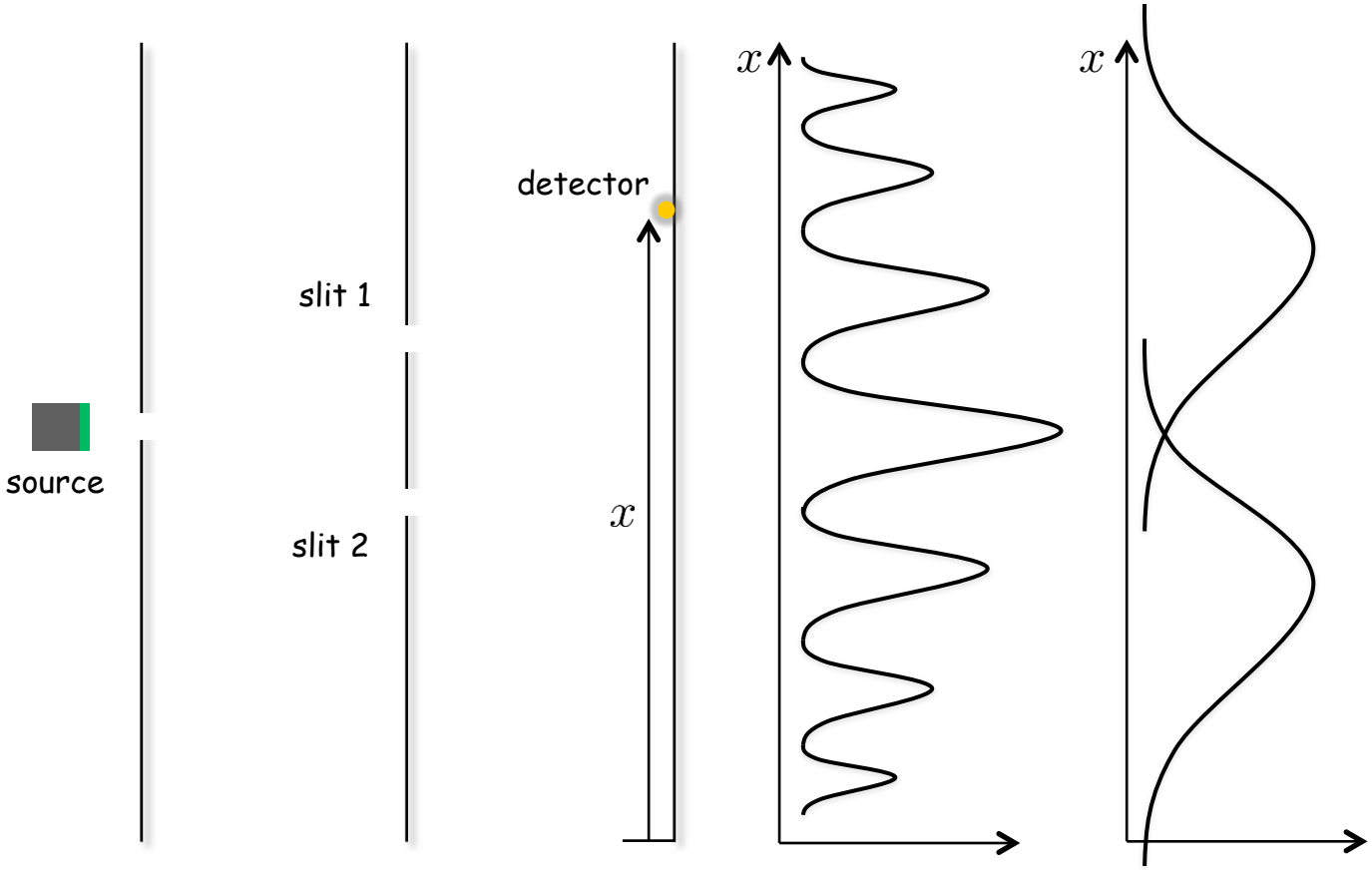


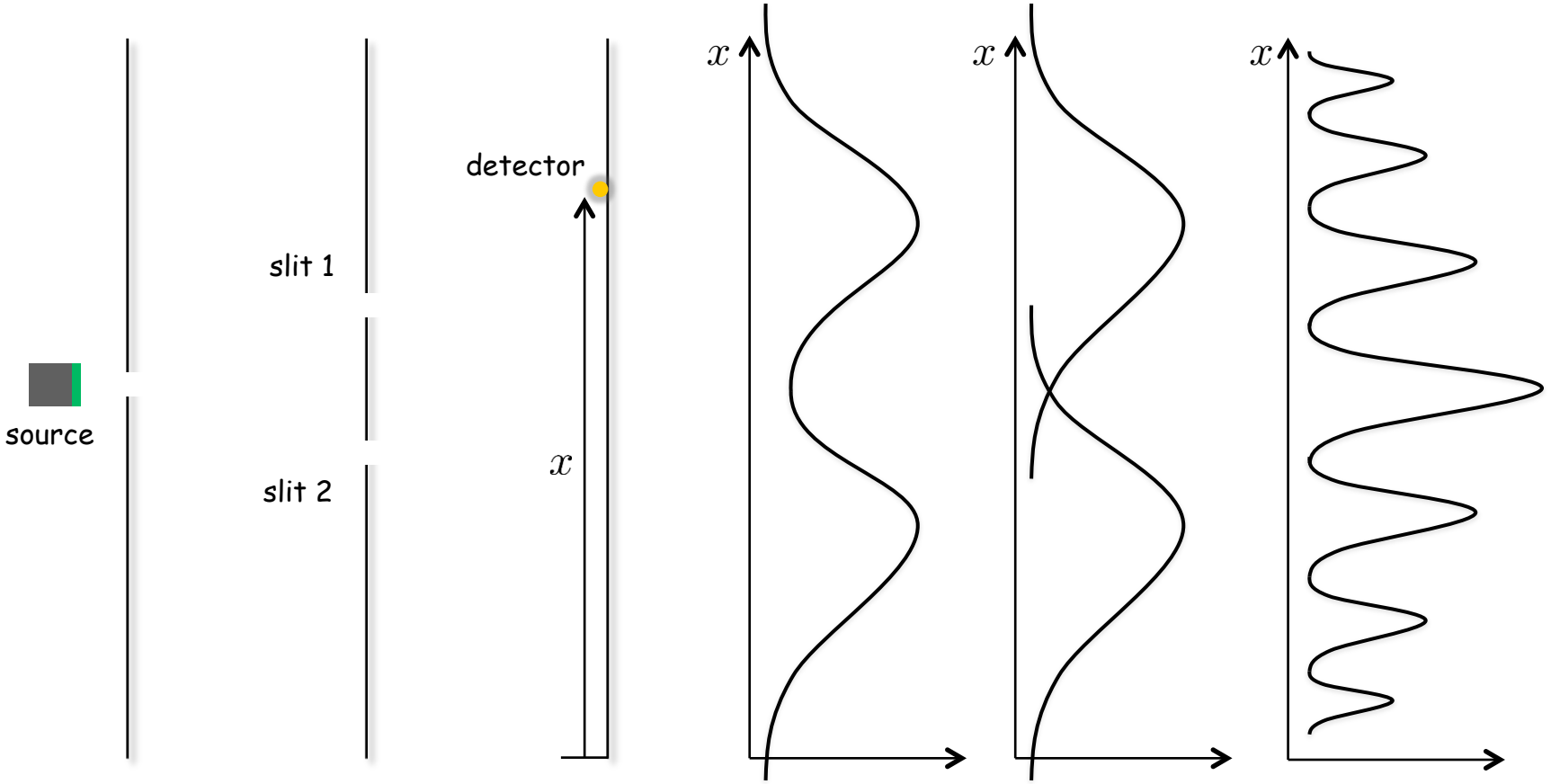
Double-slit experiment

Waves

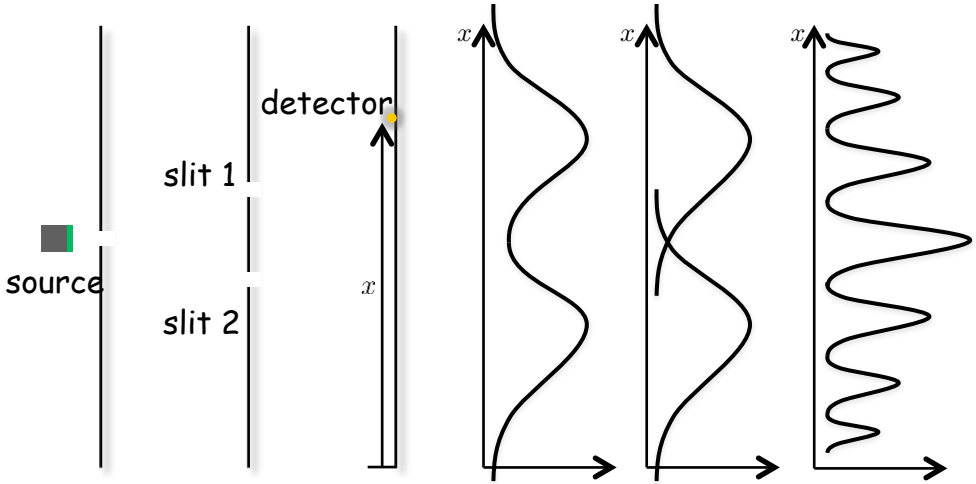


Double-slit experiment

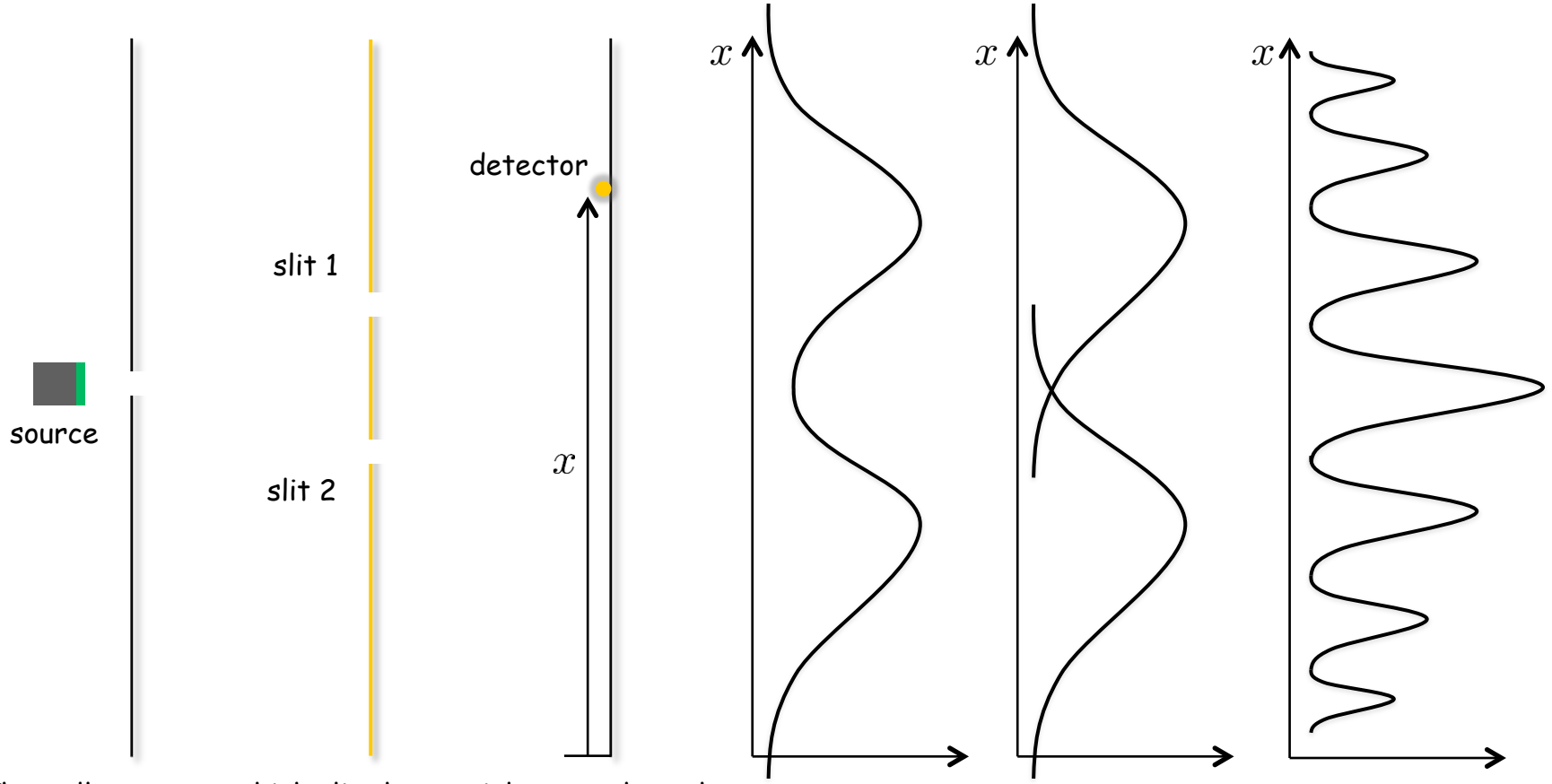
Photons/Electrons



Double-slit experiment

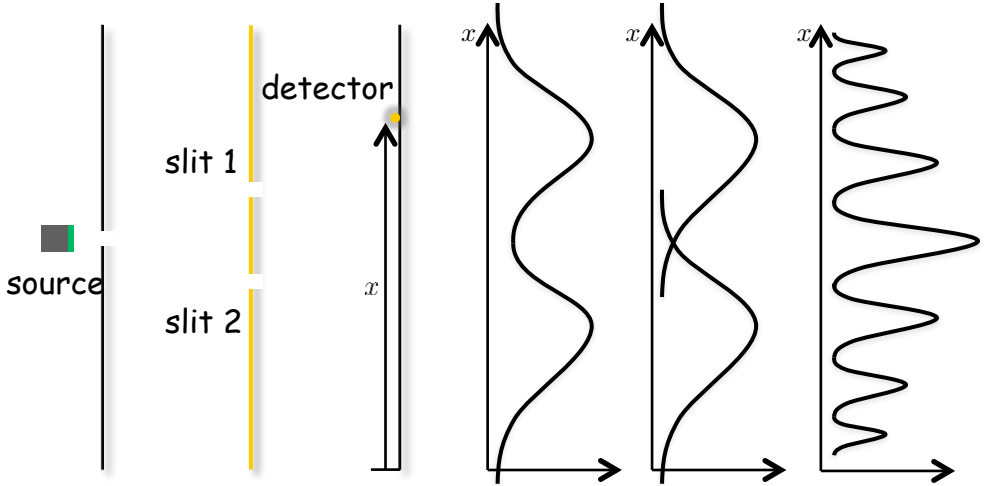


Double-slit experiment



The wall measures which slit the particle went through

Double-slit experiment



The wall measures which slit the particle went through

Intro to Quantum Mechanics

- Quantum mechanics is counter-intuitive

- Double-slit experiment
  - Probabilistic
  - Can't observe without disturbing

- Particle versus wave
  - Photons
  - Electrons

- Starting next lecture: qubits