Graduate Quantum Mechanics

Physics 412-1, Fall 2019

Topics

- Wavefunctions and probabilities, a semi-historic approach
- 1D static potentials, static and time-dependent behavior
    - Infinite square well
    - Finite square well
    - Harmonic oscillator
    - Free particle, wavepackets
- Position-momentum uncertainty principle
- Foundations of quantum theory, in a modern framework
- Symmetries
    - Discrete: rotations and parity
    - Continuous: translation and rotation
    - Generators
    - Conservation laws
- Operator solution for the harmonic oscillator
- Angular momentum

Text

Shankar, *Principles of Quantum Mechanics, Second Edition*

Final

Closed-book final on Thursday Dec. 9, 3:00-5:00 pm, in same room as class

Grading

- 50% problem sets (weekly)
- 50% final (in class)

Contact Information

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