Quantum Mechanics
Physics 237

Frank L. H. Wolfs
Department of Physics and Astronomy
University of Rochester

1

Some beautiful KLM photos. Provided by Madeline Wolfs.



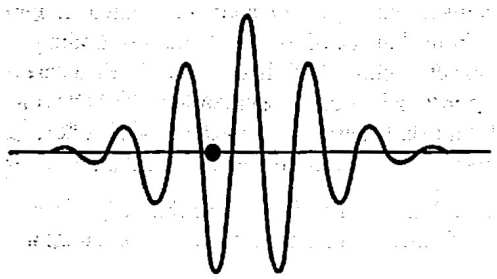
2

Announcements

- Midterm Exam # 1 will take place next week, February 10, between 8 am and 9.30 am. Location: B&L 109.
- The material covered is Chapters 1 – 4.
- I will provide an equation sheet with the most important equations we discussed in these four Chapters (and all other Chapters to follow).
- Liz will give a review of the material to be covered. Date/time TBA.
- Recitations on Monday and Wednesday will be QA sessions. Come with questions and get some answers.
- In addition to the regular office hours on Wednesday, there will be 2 additional office hours on Wednesday (details TBA).
- There will be no recitations and office hours on Thursday February 10 after the exam.

3

The wavefunction. Finding the probability $P(x)$.



4

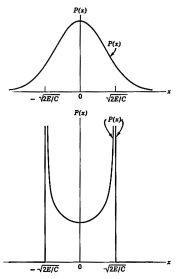
3 Minute 52 Second Intermission.

- Since paying attention for 1 hour and 15 minutes is hard when the topic is physics, let's take a 3 minute 52 second intermission.
- You can:
  - Stretch out.
  - Talk to your neighbors.
  - Ask me a quick question.
  - Enjoy the fantastic music.

5

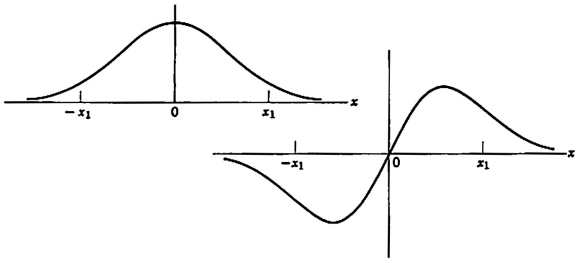
Simple harmonic motion.

- The classical and quantum model make very different predictions on the probability to find the particle at a particular position.
- Consider the equilibrium position $x = 0$:
  - In the classical model, the particle spend the least amount of time at $x = 0$.
  - In the quantum model, the particle spend the most amount of time at $x = 0$.



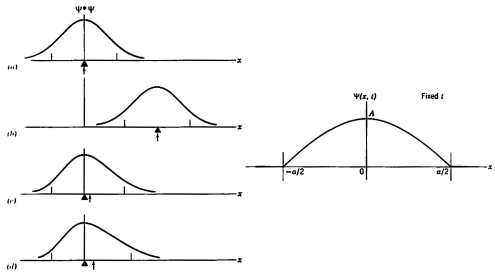
6

Wavefunctions.
Even and odd functions.



7

Wavefunctions and particle location.



8

ENOUGH FOR TODAY?

9