

Stages of Discovery

Physics Essay Exam

due 5 pm Thursday February 9 to Lab 2 3255

Goals of the Exam:

- Demonstrate what you have learned about the physics of quantum mechanics that we have studied
- Make connections between the concepts and calculations you have worked with in:
 - * reading & discussions on *Quantum* and *Copenhagen*
 - * hands-on/computer-based activities (lab, pre-class)

Instructions:

- The exam is due by 5 pm on Thursday February 9. Slip your completed exam under the door to Krishna's office (Lab 2 3255).
- Please spend no more than 3 hours total writing the exam itself.
- Once you begin writing the exam, you may not consult with anyone else. You may use your books and notes and the computer simulations associated with lab and pre-class activities throughout the exam writing process. Your essays should demonstrate your personal learning.
- Your essays can combine words, graphs, pictures, and equations.
- In at least one of your essays, you must utilize relevant program texts.
- In at least one of your essays, you must refer to hands-on/computer-based program activities.
- You will write three separate essays, each of which addresses one of the topics below. There might be some overlap, but you should focus each essay on the main topic.

Topics:

1) Wave-particle duality/complementarity

2) Uncertainty

3) Models of the Atom