

**King Fahd University of Petroleum and Minerals**  
**Physics Department**  
**Phys-212: Modern Physics**  
**Spring 2002**

**Quiz # 2**

**Name:**

**ID#:**

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Calculate the minimum speed of an atomic electron modeled as a particle in a box with walls that are 2.0 nm apart? What is the speed if the electron is in the second excited state?

Constants:

$$m=9.11 \times 10^{-31} \text{ kg}$$

$$e=1.6 \times 10^{-19} \text{ C}$$

$$h=6.626 \times 10^{-34} \text{ J s}$$