

Chapter 7, Part 2: DeBroglie, Heisenberg, Quantum numbers, Electron configuration

1. What is the wavelength of an electron that is travelling at a speed of 2.2×10^3 km/sec?

2. What is the Heisenberg Uncertainty principle? Write the equation and the description:

3. The solutions to Schrodinger's equation gives a set of quantum number for each electron in an atom. Define the following:
n =

l =

 m_l =

 m_s =
4. Angular momentum possibilities:
 - a. For $n = 0$, what values of l (angular momentum) are possible?
 - c. For $n = 4$, what values of l are possible?

5. Define the following:

Aufbau principle:

Hund's Rule:

Pauli Exclusion Principle:

6. Draw the Electron Configuration for the following, put a circle around the valence electrons.

Boron

Silicon

Oxygen

Sulfur

7. Write the electron configuration for bromine and circle the valence electrons.

8. The electron configurations for chromium and copper are anomalous. Explain why: