

Covalent bonding

Electron shell
H-atom
1s
Covalent bond
H-H Molecule

UST Spring 2010 PHYS 225 Applications of Modern Physics: from the atom to the diode 16

Covalent bonds are directional:

${}^6\text{C}: 1s^2 2s^2 2p^2$
 ${}^1\text{H}: 1s^1$

(a)

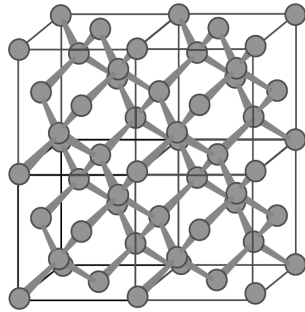
(b)

(c)

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What is the coordination number of carbon in diamond?

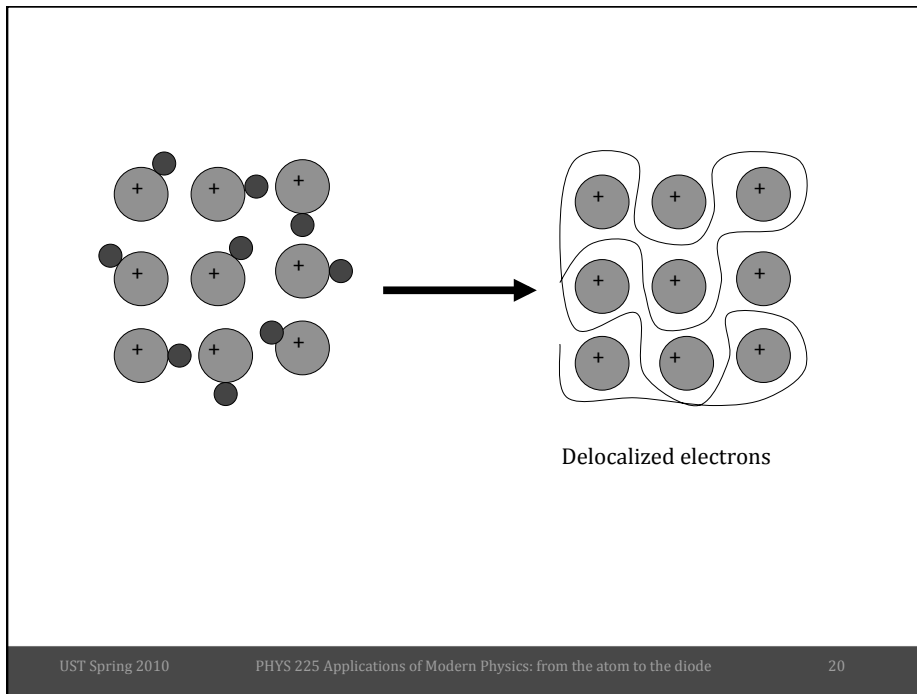
${}^6\text{C}: 1s^2 2s^2 2p^2$



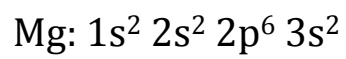
- A) 2
- B) 3
- C) 4
- D) What is coordination number?

Metallic bonding

- Metals are the most abundant elements (~80/100)
- What properties are unique to metals?



Would you expect bonds in magnesium to be stronger or weaker than in sodium?



A) Stronger

B) Weaker

Can the atoms move?

