Chemical Bonding

When molecules share electrons, they form bonds. Atoms can share one, two, or three pairs of electrons, forming single, double, and triple bonds, respectively. Although it is impossible to determine the exact position of the electron, it is possible to calculate the probability that one will find the electron in a point around the nucleus.

Contrasting MO and VB theory

Covalent Bonding

Covalent Bonds vs Ionic Bonds
General Principles of Chemical Bonding

Lewis Theory of Bonding

Pictorial Molecular Orbital Theory

Valence Bond Theory