Announcements

To join clicker to class today (Clickers with LCD display join automatically):

- Turn on the Clicker (the red LED comes on).
- Push "Join" button followed by "20" followed by the "Send" button (switches to flashing green LED if successful).

- Quiz on Wednesday.
- Quiz covers everything since exam through VSEPR

- No shorts, sandals or skirts allowed in Lab!!
- Volunteer to help with Earth Day Science Fun

Review

- IR spectroscopy observes energy absorption which excites molecular vibrations.
  - Trend: triple stronger than double stronger than single
  - shorter wavelength suggests stronger bond => single bond absorbs at longest wavelength.
  - Homonuclear diatomics have nonpolar bonds and do not absorb IR.
  - Not all motions of molecules with polar bonds lead to IR absorption.
    - The overall dipole of the molecule must change.
    - Examples: symmetric stretch of CO_2 and "breathing" of CH_4 do not absorb IR.
- VSEPR shapes determined by the number of electron groups around the central atom.

Chang Table 10.2 summarizes VSEPR, also see Dr. Gutow's VSEPR web site, reachable from the class web site.

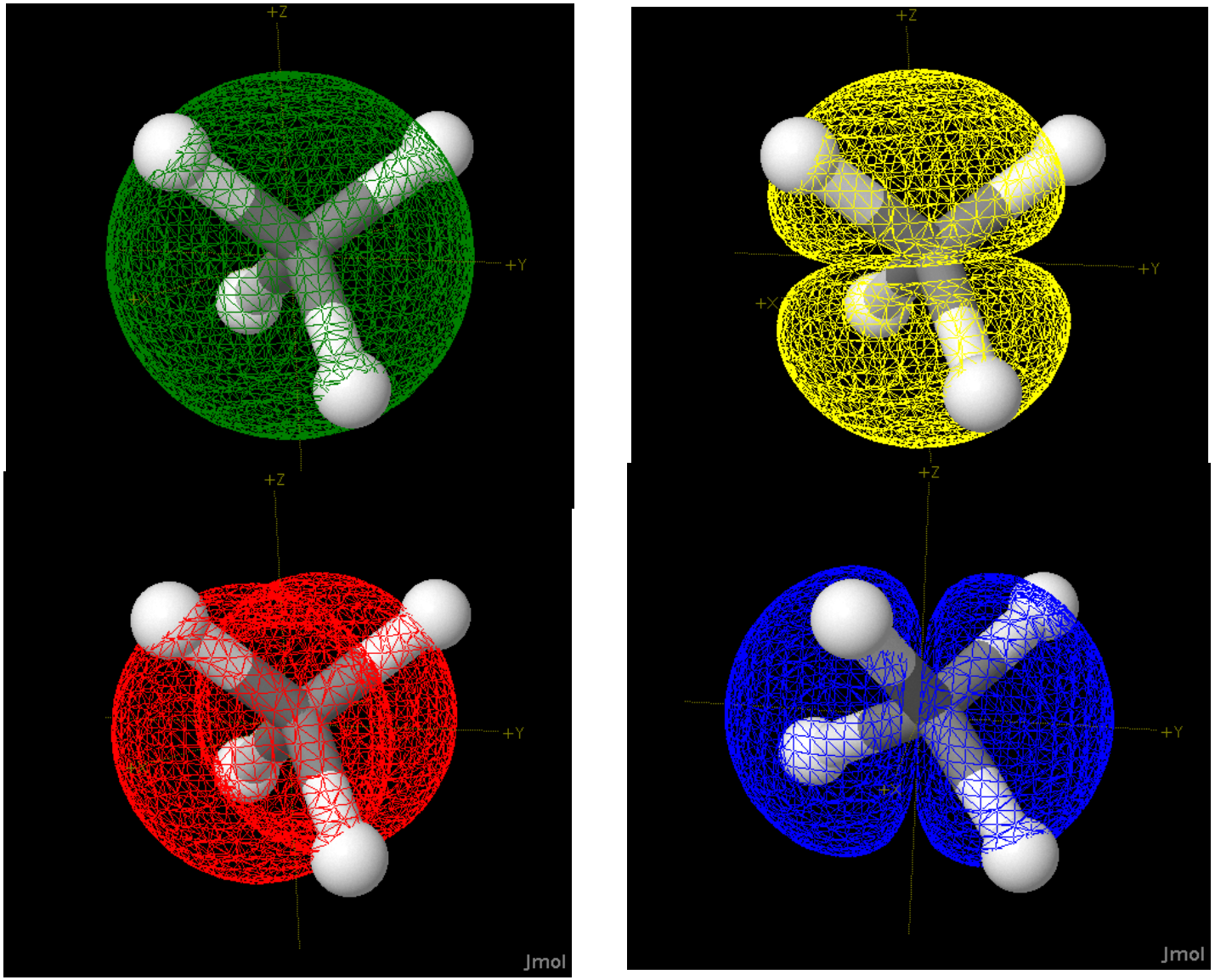
Overlap of Atomic Orbitals to Form a Bond (Valence Bond Theory)

Chang fig 10.4 and 10.5

Chang Fig 10.5

Chang Fig. 10.4

Atomic Orbitals Don't Always Point the Correct Directions.



Figures from Dr. Gutow's Hybrid Orbital Web Site