Notes 01/16

Wednesday, January 16, 2008 10:04 AM



Notes 0116

Audio recording started: 10:05 AM Wednesday, January 16, 2008

FC $[N=N=N]^{-}$ preferred which is more legitimate FC [N-N=N] which is more legitimate [N-N=N] which charge

• N₂O

llee

FC -2 + + N = 0 N = N = 0

oxygen is negative due to higher electronegativity

Cl₂CO

Cl Cl F F

C-Cl bond length is longer than C-F bond length; therefore

PF₃, PCl₃, PBr₃, Pl₃

NH₃, PH₃, AsH₃, SbH₃

Which has largest angle?

Symmetry of molecules

Symmetry operations:

1. E: does nothing, but every molecule has it.

2. i: Inversion center -

Two positions , you can't tell them apart, they aren't the same, but they are equivalent.

Linear algebra: (x,y,z), i(-x,-y,-z)

3. Rotation axis

- \Box C_n degree of rotation = 360/n
- \Box C₃ degree of rotation = 360/3 = 120 120⁰
- \Box C₂ = 180⁰, C₁ = E

Inversion center

• CCl₄

• BCl₃

Rotation axis

Does BCl₃ have other rotation axis?

