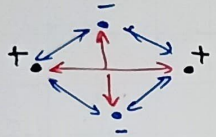
HIBRIDIZAÇÃO

VSEPR → GEOMETRIAS ← ORBITAIS

POR QUE SÓ HÁ, NO MÁXIMO, 2 LIGAÇÕES DUPLAS

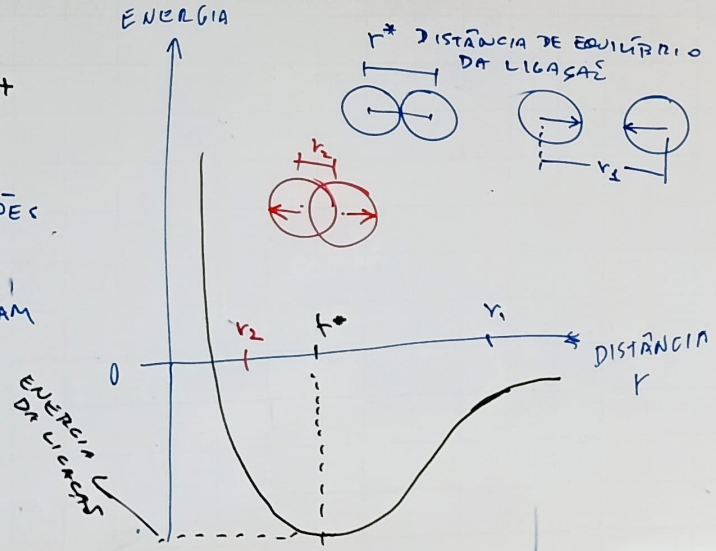
HIBRIDIZAÇÃO: EXPLICAR LIGAÇÃO QUÍMICA E GEOMETRIA A PARTIR DA COMBINAÇÃO DE ORBITAIS DOS ÁTOMOS



ATRAÇÕES > REPULSÕES

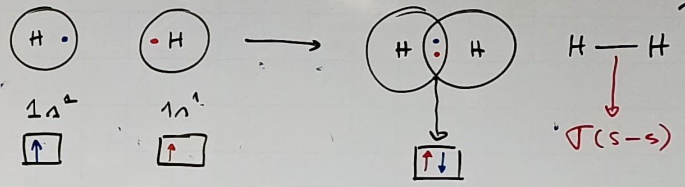
⇓

SENÃO NÃO HAVERIAM MOLÉCULAS

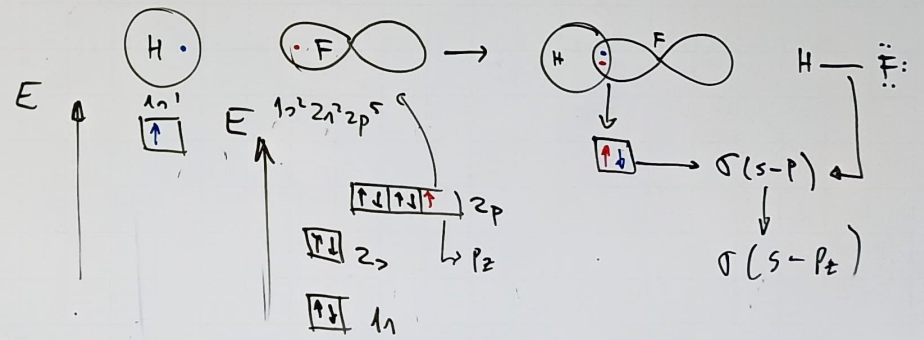


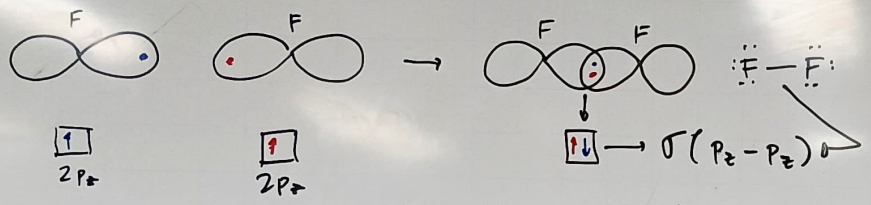
* LIGAÇÕES SIMPLES

LIGAÇÃO QUÍMICA É SOBREPOSIÇÃO DE ORBITAIS ATÔMICOS DE 1 e⁻



LIGAÇÃO SIGMA (σ): FORMADA DELA SOBREPOSIÇÃO DOS ORBITAIS AO LONGO DO EIXO DA LIGAÇÃO





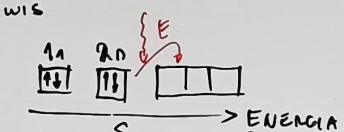
- MAIS ÁTOMOS E MAIS LIGAÇÕES

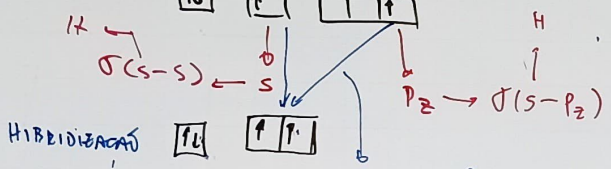
BeH_2 : H — Be — H → 180° ⇒ 2 DOMÍNIOS LIGANTES

LEWIS

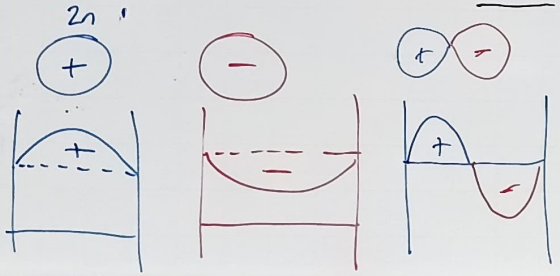
2 ORBITAIS com 1 e⁻

Be (Z = 4): $1s^2\ 2s^2$



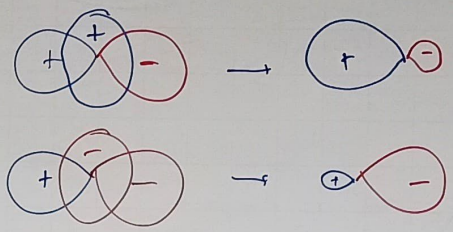


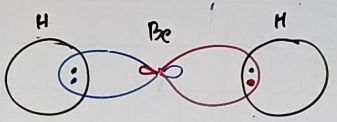
s + p ⇒ 2sp

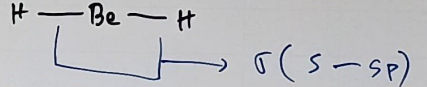


INTERFERÊNCIA CONSTRUTIVA: FASES IGUAIS

INTERFERÊNCIA DESTRUTIVA: FASES DIFERENTE

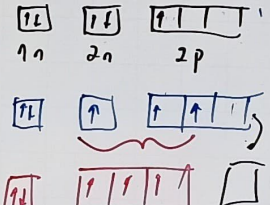




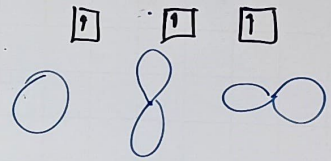


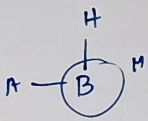
BH_3 : H — B — H (H) → 120°

B (Z = 5):

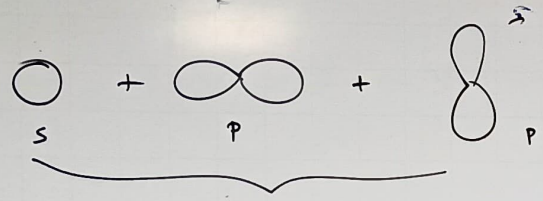


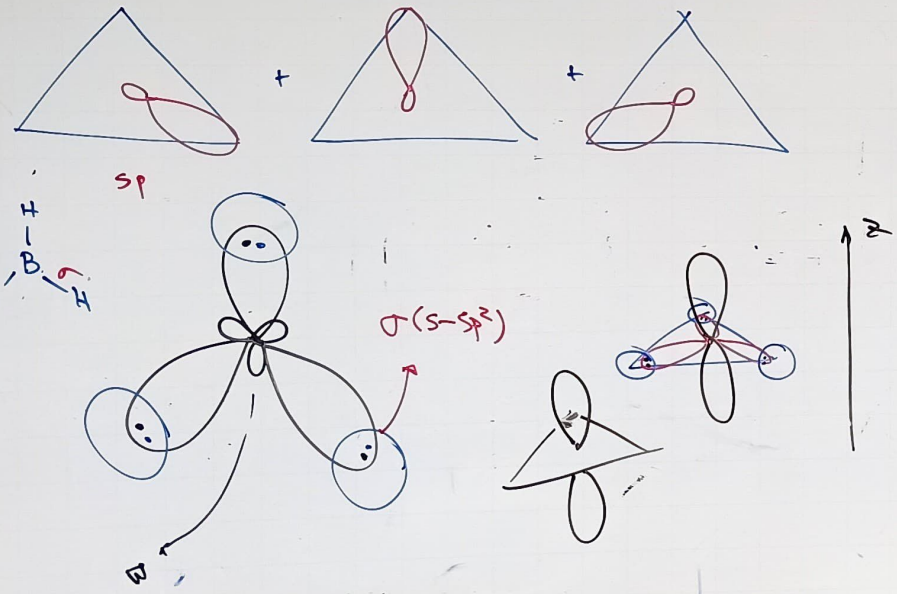
s + p + p = 3sp²



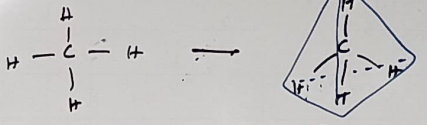


HIBRIDIZAÇÃO

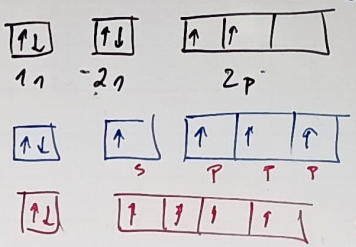




CH_4 :

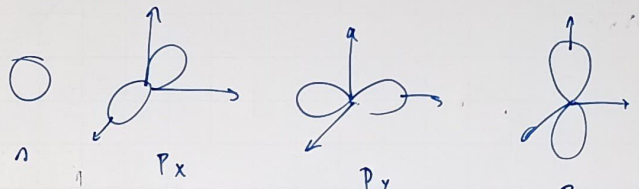


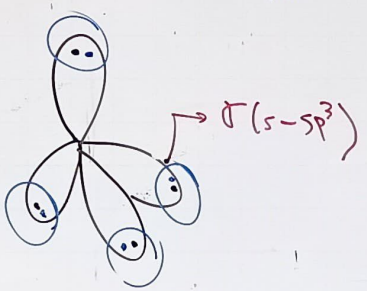
$C\ (z=6)$:



$s + p + p + p = 4 \cap p^3$

APENAS 2 ORBITAIS DISPONÍVEIS !





IMPORTANTE NÃO É DESENHAR, É SABER COMBINAR O NÚMERO E TIPO CERTO DE ORBITAIS PARA FORMAR O NÚMERO DE LIGAÇÕES DESEJADO

✳ LIGAÇÕES MÚLTIPLAS