

Answer on Question #71074, Chemistry / Inorganic Chemistry

Q. With reference to 'p' orbital, explain Hund's rule?

Answer:

According to the Hund rule, the population of orbitals belonging to the same energy sublevel begins with single electrons with parallel spins identical in sign, and only after single electrons occupy all orbitals can the final population of orbitals occur by pairs of electrons with opposite spins. As a result, the total spin (and the sum of the spin quantum numbers) of all the electrons in the atom will be maximal.

For example, a nitrogen atom has three electrons located on a 2p-sublevel. According to the Hund rule, they must be located singly on each of the three 2p orbitals. In this case, all three electrons should have parallel spins:



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