CH 107 Assignment

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What I have learnt from this week's lectures:

This week's content was very intresting as it was a totally new topic and was definitely not easy to grasp in one go. We started off with derivation of multi electron systems like helium atom . But we had to use orbital approximation and define new quantity Zeff for it to be possible to seaprate the wavefunctions for each electron.

In lecture-2 we have introduced spin orbitals by incorporating the spin part of the electron as well. Then we came across the fact that we need to use linear combinations of spin orbital and also that all these orbitals should be anti symmetic which leads to Pauli's exclusion principle.

At the end we discussed about excited states and their spin orbitals such as the singlet and triplet . We also learnt that these excited state spin orbital wavefunctions can be represented as the sum of two slater determinants.

What I find difficult to grasp in this week's lectures:

The new concept of slater determinant was not easy to grasp in one go. All the new notations such as α(1) etc.. took me some time to sink in.