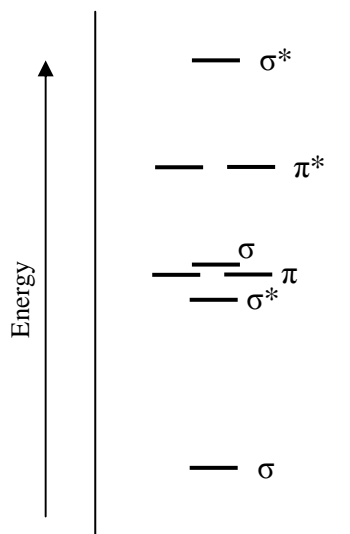


Marks
5

- The following relate to the electronic structure of the N_2^- molecular ion.

How many valence electrons are in N_2^- ?

The molecular orbital energy level diagram provided shows the energies of the orbitals for the valence electrons in N_2^- . Indicate on this diagram the ground state electronic configuration of N_2^- using the arrow notation for electron spins.



Calculate the bond order of N_2^- .

Is the bond strength in N_2^- stronger or weaker than the bond strength in N_2 ? Why?

Do you expect N_2^- to be paramagnetic? Explain your answer.