Marks 4

- The "Paschen" series of emission lines corresponds to emission from higher lying energy states to the $n = 3$ state in hydrogen-like atoms. Calculate the wavelength (in nm) of the lowest energy "Paschen" emission line in Li^{2+}.

Answer:

What are the possible l states for the $n = 4$ level of Li^{2+}?

Sketch the atomic orbital with $n = 3$ and the lowest value of l.