At PS-II (in chlorophyll)

$$H_2O \xrightarrow[\text{Oxidation (Photoxidation)}]{\text{Sunlight}} O_2 + 4e^- \qquad (A)$$

At PS-I (in chlorophyll)

$$CO_2 \xrightarrow[\text{Reduction}]{\text{Sunlight}} C_6H_{12}O_6 \qquad (B)$$

fact, at least four metals are involved in the photosynthetic process (Mg, Fe, Cu and Mn).

The above representation would help the young students at +2 level as much as graduate and postgraduate students to have a correct grasp of this process at their initial stages of learning.

Locate the Electrons

Question by:
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By Bohr's laws, an electron around a nucleus is restricted from occupying any arbitrary state of energy (energy level) and hence only predetermined discrete energy levels are allowed. This implies that the electron can exist only in certain fixed regions of space around the nucleus and nowhere else. It is these regions of space that we loosely call orbits or energy levels.

Suppose an electron has been excited from $n=1$ to $n=2$. After staying in the excited state for some time and losing the excess energy, it will jump back to $n=1$. My question is, where exactly is the electron located in this process of jumping when it has left the state $n=2$ and has not yet reached $n=1$. Because the process of transfer proceeds with a finite speed, the electrons have to be situated somewhere between the two orbits (i.e. between energy levels 1 and 2) at some point of time. But again, by Bohr's laws, they are forbidden from occupying any intermediate positions. Wherein does the anomaly lie?