Charge Transfer Reactions in Dye-Sensitized Solar Cells

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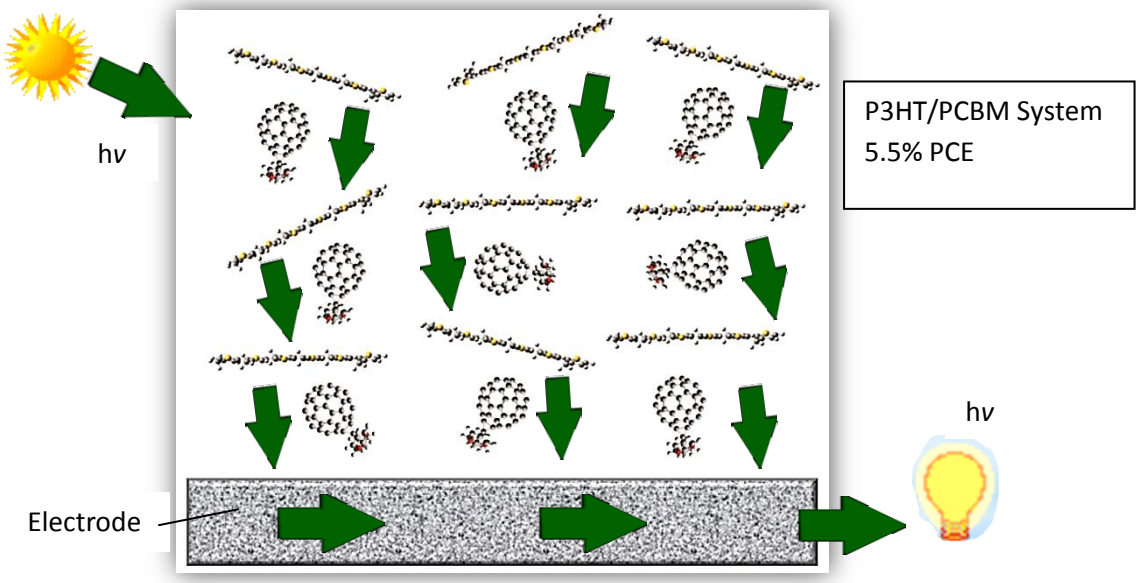
For this seminar, the audience will be introduced to some of the most recent advances in charge transfer research in dye-sensitized solar cells (DSSC). Particularly, those solar cells constructed from organic materials such as fullerenes and conjugated systems are the main subject to discuss. From these systems, different organic photovoltaic devices (OPVs) can be developed in order to take advantage of their low-weight and low cost-of-production as compared to silicon-based solar cells. However, today their power conversion efficiency is not competitive enough to manufacture them at large scale. In view of that, in this seminar it is going to be presented several approaches and strategies to improve the efficiency of charge transfer processes in DSSC from a quantum theoretical framework. It is shown that those processes can be suitably tuned by a few energetic parameters; as a result more efficient OPVs may be designed.



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