NANOSCIENCE COLLOQUIUM

Monday October 8th 2012 at 15:15, Rydberg Lecture Hall, Fysicum

Electronic Motions in Single Molecules and in Photovoltaics – Mechanisms and Mysteries

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Abstract: Organic photovoltaics require optical excitation, charge separation, charge transport, and charge injection. Transport in single molecule junctions requires charge injection, charge transport, and charge injection. Because these two observable quantities have many points in common, they can be compared in certain ways, and indeed information from one can help enrich our understanding of the other.

In both organic photovoltaics and single molecule junctions, different mechanistic regimes can appear, depending on the nature of the molecule, the interfaces involved, the environment in which the molecule finds itself, and the applied voltage. We will describe workable methods for calculating both, and venture some comparisons and some contrasts.

This is one in a series of Nanoscience Colloquia, aimed at researchers and students with an interest in nanoscience. They will cover different areas of nanoscience, and are given a couple of times per semester. The series is arranged by the Strategic Research Environment "The Nanometer Structure Consortium at Lund University", "nmC@LU", and part of the Linnaeus grant "Nanoscience and Quantum Engineering", funded by the Swedish Research Council (VR).

Vetenskapsrådet