

Seminar

Friday, 27th August 2010

11 am - Room 701

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ZnO nanowires for low cost solar cell applications.

Solid-state dye-sensitised solar cells (SDSCs) are a promising technology for energy applications due to their low cost fabrication methods and the use of low toxicity materials. One of the key advantages of SDSCs is that the resulting devices are lightweight, can be "flexible" and transparent in certain wavelength ranges, making solar cells useful for a wide-range of applications. Here work is presented on the facile synthesis of ZnO nanowires for SDSCs. In general the power conversion efficiency for ZnO nanowire solar cells has been routinely lower than the TiO₂ nanoparticle counter parts however, the two materials are similar and ZnO should show improved conduction performance. I will describe methods developed to improve the charge transfer into the ZnO nanowires, using MgO and ZrO₂ shell deposition techniques, to control the interface between the organic dyes and the ZnO in SDSCs.

All Welcome

Contact Details

For further information phone 364 2404, or visit our website: www.phys.canterbury.ac.nz