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Stellingen

behorende bij het proefschrift

Charge extraction from colloidal inorganic nanocrystals

Krisztina Szendrei

8 July 2011

1. The major drawback of using colloidal nanocrystals for electronic applications is the presence of an insulator shell of organic ligands around them, preventing aggregation but hindering charge extraction. (*Chapter 1*)
2. The optical properties of PbS thin films before and after benzenedithiol treatment exhibit very distinct behavior due to the appearance of intrinsic and surface related defect states. (*Chapter 5*)
3. Attachment of electroactive organic/inorganic ligands to the nanocrystals' surface in solution phase could be the ultimate key for facilitating charge extraction without creating surface defects. (*Chapter 3*)
4. The post deposition ligand exchange method enables the fabrication of more conductive films and their utilization as active layer in solar cells. (*Chapter 4*)
5. PbS is a versatile material; it can even form a heavy metal snow on Venus.
6. The only reason why the use of solar energy has not been opened up is that the oil industry does not own the sun. (*adapted from Ralph Nader*)
7. Theory guides, experiment decides. (*an old saying in science*)
8. If everyone would think the same way, there won't be demand for the new.
9. Being a PhD student in a European project makes your colleagues jealous, but they always forget that you have to spend most of your time on working on those amazing places where the meetings are organized.
10. When you are getting fed up with the layer-by-layer device processing, it is a perfect moment to look for a patient student.