

Abstract Submitted
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Nanostructures: Temperature Dependence of Optical Properties for Solar Applications ALVARO AGUILAR, SPS — Within solar cell technologies, thin-film cells have been proven to provide up to 20% efficiency in the laboratory. Our research group focused on Cadmium Telluride thin-film cells for two reasons: it can be readily synthesized as nano particles and it is known to make efficient thin-film cells. The optical characteristics of the CdTe layer of the cell were investigated with relation to temperature using the HORIBA Jobin Yvon Variable Angle Spectroscopic Ellipsometer and the LinkAM TMS94 Temperature Controller. Our results show that sintering nano particles of CdTe decreases the film's thickness and shifts the Energy Gap toward lower energies. The method used can be applied to different nano structures and even new materials.

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