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Characterization of Selective area deposited CdTe Polycrystal solar cells JOSE LUIS CRUZ-CAMPA, Physics Department, University of Texas at El Paso, LOPEZ CESAR, Electrical Engineering Department, University of Texas at El Paso, ESCOVEDO AREV, SANDRA OYER, JACOB RASCON, ESTELLA QUINONES, ZUBIA DAVID, Electrical Engineering Department, University of Texas at El Paso — Due to the increasing demand of energy, renewable sources have become a research focus. The economic advantage of CdTe-based solar cells is their low cost of manufacture compared to Si and GaAs cells; however the tradeoff is lower efficiency due to the processes that yield polycrystalline films. Although the theoretical efficiency is 29 percent, the current record efficiency is 16.5 percent. Current research at UTEP's Nano Materials Integration Laboratory (NanoMIL) has centered on CdTe based devices, applying a technique of ordered polycrystalline films to make them behave as single crystal materials trying to improve the efficiency. This talk will present the current progress and results of structural characterization of ordered polycrystalline CdTe thin films.

Jose Luis Cruz-Campa
Physics Department University of Texas at El Paso

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