

Abstract Submitted  
for the OSF16 Meeting of  
The American Physical Society

**RF-Sputtered  $\text{Cd}_2\text{SnO}_4$  for Flexible CdTe solar cells<sup>1</sup>** GEETHIKA LIYANAGE, COREY GRICE, ADAM PHILLIPS, ZHAONING SONG, SUNETH WATTHAGE, NICHOLAS FRANZER, Univesrity of Toledo, SEAN GARNER, Corning Incorporated, YANFA YAN, MICHAEL HEBEN, Univesrity of Toledo —  $\text{Cd}_2\text{SnO}_4$  (CTO) is an interesting material as a transparent conducting oxide for photovoltaic devices. However, as-deposited CTO films show poor conductivity and transparency, so a high temperature post-deposition annealing step is required to achieve desired optical and electrical properties. Wu[1] showed that this step may be eliminated by leveraging the high temperature closed space sublimation (CSS) used for the deposition of the high efficiency CdTe absorber layer. Here, we investigate the optical and electrical properties of RF-sputtered CTO films after undergoing the CSS CdTe deposition process. The CTO layer in these devices shows nanocrystallinity with a significant improvement in the electrical and optical properties compared to the as-deposited CTO films. CdTe devices were completed on a number of substrates using CTO as transparent conducting oxide, with a best device efficiency of 14.5% on a flexible Corning®Willow®Glass substrate. [1] .X. Wu, W. P. Mulligan, and T. J. Coutts, *Thin Solid Films* **286** (1), 274 (1996).

<sup>1</sup>The work was funded by the Air Force Research Laboratory, Space Vehicles Directorate (contract FA9453-11-C-0253) and faculty start-up funds from The University of Toledo.

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Date submitted: 11 Sep 2016

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