

Abstract Submitted  
for the MAR16 Meeting of  
The American Physical Society

**Fabrication of self-forming silver network as transparent conductive electrode with photoresist** CHAOBIN YANG, JUAN M MERLO, MICHAEL J BURNS, KRZYSZTOF KEMPA, MICHAEL J NAUGHTON, Boston College — It has been reported that a metal wire network, obtained by sputtering with a self-cracking gel film mask, can function as a TCO replacement, perhaps reducing end device cost [1]. Toward further process simplification and cost reduction, we are investigating various electroless deposition schemes to template a wire network electrode. We report here that a conventional photoresist film can be prepared with a network of microcracks and can be used as a mask to electrolessly deposit metal, e.g. silver. With this method, no vacuum chambers are required, and undeposited metal can even be recycled for additional depositions. [1] B. Han , K. Pei , Y. Huang , X. Zhang , Q. Rong , Q. Lin , Y. Guo , T. Sun , C. Guo , D. Carnahan , M. Giersig , Y. Wang , J. Gao , Z. Ren , and K. Kempa , *Adv. Mater.* 26, 873 (2014).

Jiantao Kong  
Boston College

Date submitted: 06 Nov 2015

Electronic form version 1.4