

## ***Harnessing Surface Plasmon Subwavelength Optics in Metallic Nanostructures for Enhanced Efficiency in Thin-Film Solar Cells***

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In this work, we have employed a solution-based low-cost nanofabrication technique, nanosphere lithography, to produce thin Ag films incorporating plasmonic nanohole arrays as transparent conducting electrodes for thin-film solar cells. Organic photovoltaic cells constructed using a nanopatterned Ag electrode show power conversion efficiencies that exceed those of devices constructed on conventional indium-tin-oxide, independent of light polarization. Because this fabrication technique can be easily practiced by other researchers at low cost, our results show promise for facilitating broad dissemination of plasmonic electrode architecture to the photovoltaics community and is likely to provide advantages in practical implementation.

