

Abstract Submitted
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Inexpensive Fabrication of Metallic Interconnects on Flexible Substrates¹ ADITI NAIK, ROHIT KOTHARI, JAMES WATKINS, University of Massachusetts - Amherst — Sub-micron metallic interconnects on flexible substrates are important to produce inexpensive bendable devices and electronics. The key component hindering high-performance flexible electronics is the lack of high transistor integration density. Previous researchers have created solution-processable semiconductor and dielectric layers; however, sub-micron solution-processable copper electrodes have yet to be developed. Using cost-effective processing techniques, including soft nanolithography and photonic sintering, with a commercial copper oxide ink, we have demonstrated the fabrication of sub-micron copper interconnects on glass and plastic substrates. This inexpensive, solution-processable method is amenable to high-speed printing over large areas by roll-to-roll processing and will lead to the development of low-cost flexible electronics.

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