

Oral Presentation

[AMD4]Emerging TFTs

Chair: Hyun Jae Kim (Yonsei Univ.)

Co-Chair: Yosei Shibata (Tohoku Univ.)

Thu. Nov 28, 2019 9:00 AM - 10:20 AM Mid-sized Hall B (1F)

9:25 AM - 9:50 AM

[AMD4-2(Invited)]Printing of 3D Electronic Circuits and Organic Thin-Film Transistors

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Keywords:Printed Electronics, Organic thin-film transistors, Metal nanoparticles

We propose a large-scale fabrication method of electronic devices based on solution-processed coating and printing. This method relies on bottom-up printing processes using soluble metal nanoparticles and organic semiconductors, resulting in thin-film electronic devices to be printed at room temperature without application of heat. We successfully fabricated high-performance organic thin-film transistors on plastic and paper substrates. In addition, the printing technique with 1-micron line width and space was also achieved. Our fabrication method is very promising for low-cost fabrication of high-resolution flexible electronics.