

IV. Materials, Fabrication and Integration for Sensor Architectures

(B2) Nanopatterning for Complex Systems

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Nanopatterning, the ability to make nanostructures, is essential to development and commercialization of nano-devices and nano-systems in various industries (e.g. semiconductor ICs, optical communications, magnetic data storage systems, nano-electromechanical systems, and nano-biotechnology, to name just a few) for both civilian and military applications. The session will focus on advanced developments in nano-patterning with emphasis on complex systems, including: (1) nano-imprint, (2) nano-print (including dip-pen lithography), (3) advances in mechanical, chemical, biochemical, and physical (including electron beam, ion beam and optical) nano-patterning methods, (4) tooling, (5) materials, (6) simulations, and (7) applications of nano-patterned complex systems (electronics, optoelectronics, magnetics, materials, self-assembly, chemistry, biology, and pharmaceuticals).