

## Macroscopic Arrays of Block Copolymers With Areal Densities of 10 Terabit/inch<sup>2</sup> and Beyond

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### ***Presentation***

***Abstract:*** By combining confinement effects with the highly directional field inherent in solvent evaporation and the mobility imparted to the BCP by the solvent, perfectly registered arrays of hexagonally packed block copolymer microdomains were produced on surfaces at least 3x3 cm<sup>2</sup> in area with areal densities in excess of 10 terabit/inch<sup>2</sup>. Registry of the arrays and the perfection of the ordering over macroscopic distances were demonstrated by grazing incidence small angle x-ray scattering and scanning force microscopy. This approach circumvents registry constraints and excessive writing times inherent in e-beam lithographic processes over macroscopic length scales and presents a simple route to addressable patterned media.