Sub-100 nm interferometric lithography realized with table top extreme ultraviolet lasers

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— We demonstrated patterning of arrays of nano-dots with feature sizes below 100 nm by interferometric lithography using a table top extreme ultraviolet 46.9 nm wavelength laser. The interferometric lithography setup was based on a Lloyd’s mirror interferometer and multiple exposures. That allowed the patterning of arrays of nano-dots over areas of 500×500 µm² on commercial photoresists with different motifs. This new technique demonstrates the printing capability of nano-scale patterns with a compact table-top set up at extreme ultraviolet wavelengths.