

Title (en)
METHODS AND APPARATUS FOR INTEGRATING OPTICAL AND INTERFEROMETRIC LITHOGRAPHY TO PRODUCE COMPLEX PATTERNS

Title (de)
INTEGRATION OPTISCHER UND INTERFEROMETRISCHER LITHOGRAPHIE ZUR HERSTELLUNG KOMPLEXER MUSTER

Title (fr)
PROCEDES ET APPAREILS PERMETTANT L'INTEGRATION DE GRAVURE OPTIQUE ET DE LITHOGRAPHIE INTERFEROMETRIQUE POUR PRODUIRE DES MOTIFS COMPLEXES

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Abstract (en)
[origin: WO9832054A1] The present invention provides methods and apparatus for defining a single structure (11) on a semiconductor wafer by spatial frequency components whereby some of the spatial frequency components (12-16) are derived by optical lithography and some by interferometric lithography techniques. Interferometric lithography images the high frequency components while optical lithography images the low frequency components. Optics collects many spatial frequencies and the interferometry shifts the spatial frequencies to high spatial frequencies. Thus, because the mask does not need to provide high spatial frequencies, the masks are configured to create only low frequency components, thereby allowing fabrication of simpler masks having larger structures. These methods and apparatus facilitate writing more complex repetitive as well as non-repetitive patterns in a single exposure with a resolution which is higher than that currently available using known optical lithography alone.

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