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Step and Flash Imprint Lithography¹

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Step and Flash Imprint Lithography has been recognized as a potentially low cost, high resolution patterning technique. Most of the published development work has been directed toward tool design and processing techniques. This work will be reviewed. There remains a tremendous opportunity and need to develop new materials for specific SFIL applications. An overview of relevant materials-related development work for SFIL lithographic applications will be presented. Material requirements for SFIL patterning for the sub-50 nm integrated circuit regime are discussed along with proposed new imprint applications, such as imprintable dielectrics that are targeted for use as on chip insulation layers.

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