

Current issues and trends in lithography for advanced chip production

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Abstract

This paper will examine some of the patterning issues in advanced chip production. Immersion lithography has enabled considerable progress in higher resolution processes with greater Depth of Focus, however overlay error capability does not automatically improve. Polarization effects and Electro-Magnetic Field effects at the mask force us to improve our modeling and OPC methods. The presentation will also discuss the proliferation of double patterning methods, some of which break the traditional $0.5\lambda/NA$ half-pitch barrier.