SAMPLE PLAN CREATION AND FULL CHIP COVERAGE FOR OPTICAL PROXIMITY CORRECTION MODELS

By

Mohammad Kamel Abdelfattah Kamel Moawad

A Thesis Submitted to the
Faculty of Engineering at Cairo University
in Partial Fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE
in
ELECTRONICS AND COMMUNICATIONS ENGINEERING

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Title of Thesis:

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Key Words:
Photolithography; Resolution Enhancement techniques; Optical Proximity Correction; Modeling; Simulation

Summary:

Photolithography is used in integrated circuit manufacturing. Feature reduction challenge requires resolution enhancement techniques with the limitations imposed on the wavelength used. Optical proximity correction is one of the resolution enhancement techniques. Optical proximity correction requires predictive process models. In this study, a new methodology is introduced for the sample plan creation based on full chip image parameter coverage analysis. The generated sample plan aims to provide more predictive photoresist models for the lithography process.

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Dedication

To Kamel & Hoda

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