



1. Title:	The capability of recent DUV inspection and printability for pattern defects on EUV mask in 45 nm node and below
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3. Abstract body:

As the design rule continues to shrink towards 45 nm node and beyond, the lithographers need the new technologies such as immersion lithography and EUV lithography. Also the inspection specification on the printed reticle defects is becoming even more challenging for the reticles used in both lithography methods.

The main purpose of this study is to investigate the pattern defect detection capability on EUV mask with the memory design patterns of 45 nm node and below in the DUV reticle inspection systems and to compare those results with the absorber defect specification from the EUV lithography simulation and the printability experiment with EUV lithography tools in this design rule.

In addition, we investigate the inspection capability on the pattern defects with the test optical mask designed in 45 nm node and below for the immersion lithography and compare the defect detection ability on the EUV mask and the optical mask in the current DUV reticle inspection equipment.