Speckle Metrology for EUV Lithography
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Aerial Imaging of EUV Microscope Aberrations

EUV Microscope (SHARP)

Through – angle spectra
Through – FOV spectra (spiral pupil)

Computing the Aberrated Pupil function

Solved aberration

P(a) = P_{conv}(a) + P_{opt}(a)

Weak (EUV) vs Strong (Optical) Speckle

Latent Resist Imaging of EUV Speckle

Exposed but not developed resist is probed with AFM

Dose Calibration Tool

500μm

Photo Resist

Latent resist image

Dose

15mJ/cm²

25mJ/cm²

35mJ/cm²

45mJ/cm²

unexposed

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