

List of Leading EUVL Technical Challenges

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Source

Power scaling of Sn LPP sources to 250 W
Paths to <250 to 1000 W EUV sources
High brightness EUV sources to support mask metrology
Source requirements for high NA scanners for 10 nm and smaller nodes
Source power requirements for 450 mm wafer scanners
BEUV Sources

Optics and Contamination

High NA optics manufacturing
Innovative Collector Optics Designs
New Capping layers for extending lifetime
In-situ cleaning
Contamination measurement

Mask

Mask technology to support high NA scanners, including transition to 9 inch masks
Strategies for low defect mask blanks
Mask defect metrology: New approaches
Mask pellicles

Resist and Patterning

Meeting simultaneous requirements for LER, sensitivity and resolution for EUV resists
Multiple patterning using EUVL
Post-processing approaches to reduce LER
Resist materials and process for 1x node
High absorption resists
Out of band sensitivity
Etch transfer

