Proposed list of topics for the workshop

1. 13.5 nm plasma sources to support high volume manufacturing (HVM) scanners

Update on performance of high power EUV Sources

Approaches to power scaling to enable 500 W - 1 kW EUV sources

Approaches to increasing source conversion efficiency

Innovative fuel delivery approaches including mist targets

Source debris mitigation Strategies

In-situ cleaning of collector optics

Technologies for filtering Out of band (OOB) radiation at UV, IR and 10.6 μ wavelengths – including spectral purity filters, innovative approaches and new multi-layer collector designs

Refurbishment of ML Collectors for LPP sources

Coatings for increasing collector lifetime and OOB suppression

Innovative collector designs for LPP

Source Metrology

Synchrotron based metrology for HVM source collectors, filters, sensors and detectors

CO_2 laser amplifiers

New laser designs to support HVM sources

Modelling of sources, collectors and its components

2. EUV Source for Mask Metrology

Development status of source for EUV mask metrology

Source brightness requirements for EUV mask metrology

Limits of brightness for LPP and DPP mask metrology sources

Hybrid sources for mask metrology (Combination of laser produced plasma and discharge, e.g., LDP sources)

Spectral purity filters

Debris mitigation strategies for metrology sources

3. Alternative Technologies for HVM /Metrology Sources (13.5 nm)

Alternative EUV Source Technologies to support HVM and/or Metrology sources

Characteristics of non-plasma sources (brightness, power, source size, repetition frequency, techniques for altering coherence, foot print and cost of ownership)

Economics of non-plasma sources – Cost of ownership (foot print, cost of source and cost of operation), time lines for technology readiness and R&D funding requirements

4. BEUV Source at 6.x nm for Lithography Applications

Multilayers for 6.x nm lithography

Choice of source fuel materials for 6.x nm lithography

Pros and cons of choosing Gd as the material of choice for 6.x lithography

Design of spectral purity filters for 6.x nm sources

Value of “x” in 6.x nm

Non-plasma sources for 6.x nm based lithography

Modelling

5. XUV / Water window sources (~1 nm- 100 nm / 10 eV to 1 keV)

XUV Sources (plasma and non-plasma sources, incoherent and coherent) and its development status (power, brightness, wavelength region, repetition frequency, cost of ownership, lifetime, commercial readiness)

Collector Optics for XUV sources (GI and NI)

Spectral purity filters and debris mitigation

Optics for XUV metrology (normal and grazing angle optics, filters, and gratings)

Detectors for XUV metrology

XUV Metrology Applications including supporting of EUV and BEUV Lithography and microscopy