

Compact EUV Source for metrology and irradiation applications

J. Vieker and K. Bergmann

Fraunhofer Institute for Laser Technology ILT
Steinbachstraße 15, 52074 Aachen

Discharge based EUV sources offer a compact and cost effective alternative for metrology and irradiation applications. The concept allows efficient generation of radiation in the soft x-ray to extreme ultraviolet spectral range. Such sources are commercially available and are being used in the environment of EUV lithography development, e.g., for optics lifetime experiments and mask inspection as well as resist or pellicle development.

This presentation reports on the current status of the compact source development at Fraunhofer ILT. The influence of electrode geometry and erosion as well as the admixture of working gases on the EUV generation has been studied. The obtained knowledge allows for tailoring the source's design and parameters to improve the long-term performance of an application. Hereby the requirements mainly differ in terms of étendue, power and spectral range.