Compact discharge based EUV Source for metrology and inspection

J. Vieker and K. Bergmann
Fraunhofer Institute for Laser Technology ILT

Discharge based EUV sources offer a compact and cost effective alternative for metrology and inspection applications. Such sources are commercially available and being used in the environment of EUV lithography development, e.g., mirror contamination studies, mask blank inspection or resist development.
This presentation reports on the current status of the compact source development at Fraunhofer ILT. The concept is based on an electrical discharge which allows for efficient emission of radiation from the soft x-ray range in the water window to the extreme ultraviolet around 13.5 nm where it features an output power of 40 W/(2πsr, 2% b.w.). Current examples of applications, e.g., for metrology and the environment of the development of EUV lithography will be presented.