Joint DESY and University of Hamburg Accelerator Physics Seminar

Thursday, April 22-nd, 2010

(16:00 in Room 459/30b)

Review on the Present Technology of Radiation Sources for Extreme Ultraviolet Lithography

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Abstract

Optical lithograhy is the most dynamic research field in nano-technology, especially driven by the strong demands from the semiconductor industry for "Moores law". The global research effort has recently resulted in a establishing the source architecture for 400W level, 13.5nm incoherent radiation. It is reviewed in this talk on the high average power, short pulse $\mathbf{CO_2}$ laser, magnetic field control of fast particles, and EUV optics, to supply clean, high average power EUV light. The road maps of two major suppliers are also evaluated. Recently a compact, high brightness source for metrology application, and a next wavelength of 6.7nm where a relatively high reflectivity optics is available, were discussed. ERL FEL technology has a clear advantage in a large scale facility at shorter wavelength. EUV source technology in 2020 is discussed by evaluating laser plasma and FEL characteristics.

NOTE THE UNUSUAL DATE

J.Roßbach (Univ. HH) and M.Vogt (MPY).

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