

# A Focused Electron Beam EUV Source\*

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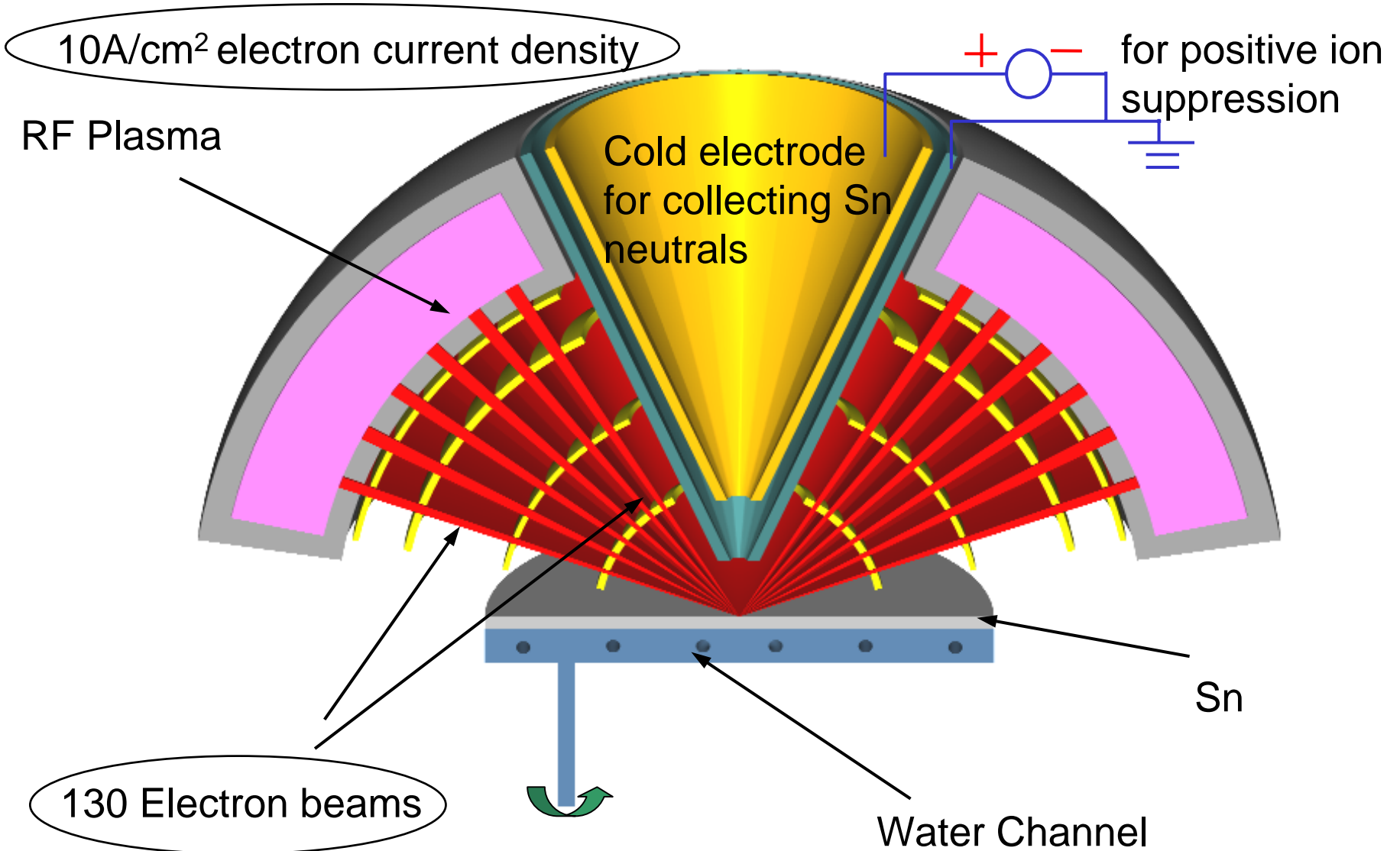
Lawrence Berkeley National Laboratory

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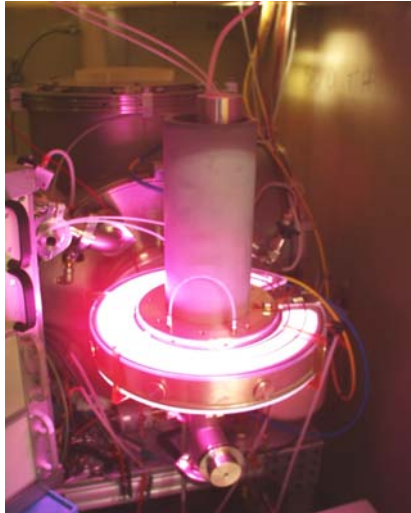
International SEMATECH EUV Source Workshop

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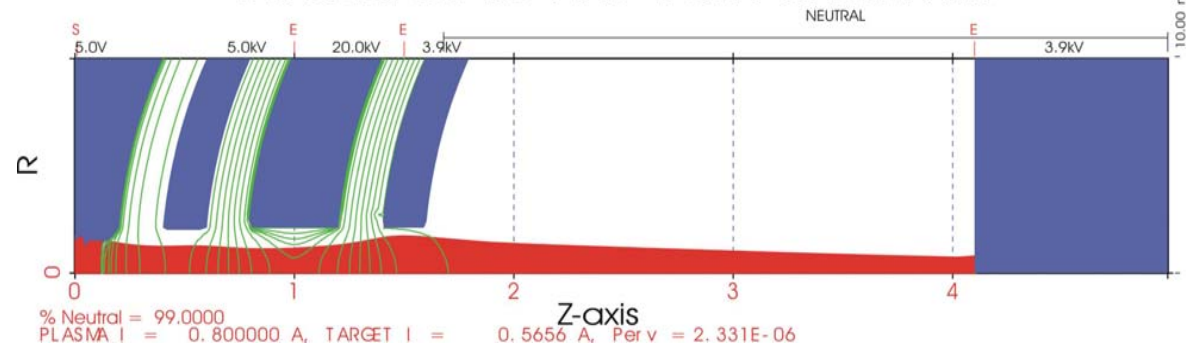
# Schematics of FEB EUV source



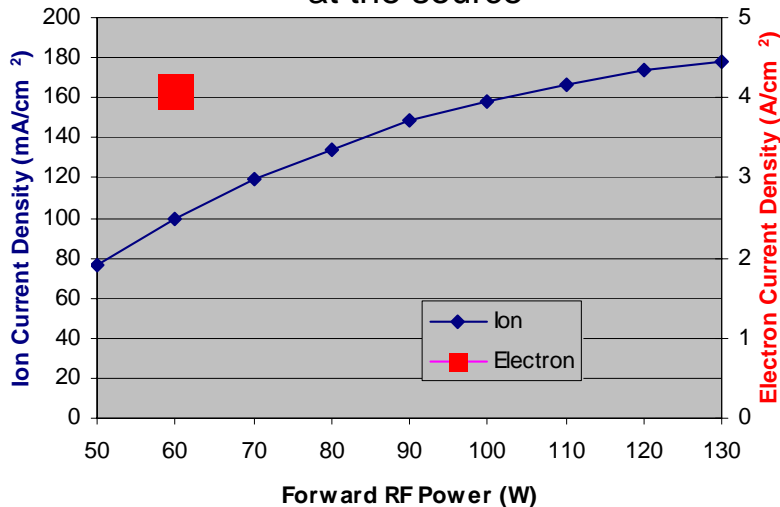
# Output Power of FEB EUV Source



Electron beam trajectories from source to target



Current density of a single electron beam at the source



Electron Beam Energy: 1 keV

Electron beam current density: 130 kA/cm<sup>2</sup>  
(at the target)

Solid angle:  $0.6 \pi$

Beam size: 1 mm

Pulse width: 1  $\mu$ s

⇒ Average EUV source power: 200 W

Pulse repetition frequency: 1 kHz  
(taking into account of the target self absorption of EUV)