Compact rotating Sn disc target LPP source

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Compact, versatile, easy-to-use EUV source



Target design specifications Driver Nd: YAG laser Target Liquid Sn-covered rotating disc target **Debris filter** Multi-stage filters Collector Grazing-incidence collector Dimensions 1200x1400x2200 mm Operating frequency (laser power) Up to 100 kHz (350 W) Source plasma Emission size: 110x50 µm Emission power: 7 W/2 π sr (2 % bandwidth at 13.5 nm) Intermediate focus Intensity: 65 W/cm² Brightness: 40 W/mm²/sr

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EUV spot obtained at IF



- A 2-ns, 400-W laser was selected for the current development.
- CE is approximately 2-2.5 %.
- EUV energy stability is <2 % (best case).
- EUV light was observed at the intermediate focus (IF) point after the debris filters and collector.





Summary and future work



Summary

- Experimental setup was modified with a new target module, debris filters and a collector module.
- Grazing-incidence collector is currently being tested.
- EUV spot was confirmed at the intermediate focus (IF).

Future work

- Introduction of the prototype source.
- Experiment at higher power (scaling to the target performance).
- Long-term stability/reliability test.

