Theme: Laser Produced Plasma for EUV

- Sub Theme: Laser Produced Plasma simulation for EUV Source Improvement

Recent advances in laser systems with plasma control enable to generate EUV light for high volume manufacturing. Laser produced plasma by impacting high power laser on liquid Sn target is key process to make EUV.

However, there are still rooms to enhance conversion efficiency and stability of generation EUV. Although experimental results are the standard for operation, they have limits to answer all questions about spatial, temporal and spectral resolution. Also, combination of operational issues and simulation can improve EUVL sources faster than experiment alone.

Therefore, we need advanced numerical simulation method to improve EUV source power and its stability.

The topics we are through this GRO are as follows:

1. Advanced computer simulations for interactions of Laser with solid and warm targets.
   · Fundamental physics of proton beam interactions with ionized plasma
   · Proton beam transport and energy deposition in solid-density matter
   · 2-D radiation hydrodynamics simulations
2. Laser - low mass target interactions
   · Proton Radiography / Electron transport
   · Creating ultra-bright light by concentrating the energy of a high power short pulse Laser

※ *The topics are not limited to the above examples and the participants are encouraged to propose the original idea.*
※ *Funding: Up to USD 150,000 per year*