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**Optimization of Extreme Ultra-Violet Emission from Laser-produced Tin Plasmas by Radiation Hydrodynamic Simulations** ATSUSHI SUNAHARA, Institute for Laser Technology Japan, AKIRA SASAKI, Japan Atomic Energy Agency, KATSUNOBU NISHIHARA, HIROFUMI UEDA, TATSUYA AOTA, SHINSUKE FUJIOKA, Institute of Laser Engineering Osaka University, MICHITERU YAMAURA, YOSHINORI SHIMADA, Institute for Laser Technology Japan, HIROAKI NISHIMURA, NORIAKI MIYANAGA, YASUKAZU IZAWA, KUNIOKI MIMA, Institute of Laser Engineering Osaka University, EUV PROJECT (JAPAN MEXT LEADING PROJECT) COLLABORATION — Extreme Ultra-Violet (EUV) emission from laser-produced tin plasmas is a candidate for the light source used in lithography of the next generation semi-conductors. In order to simulate the EUV emission from laser-produced tin plasma, we have developed the radiation hydrodynamic code "Star-1D" and "Star-2D," respectively. The calculated x-ray spectrum and EUV conversion efficiency from 1-D simulations qualitatively agree with experimental results. Calculated spectrum by 2-D code for the long scale length plasma is good agreement with experimentally measured results. Also, calculated density profiles are verified by the interferometry observations. We will show the optimized conditions and its physical interpretation for the high conversion efficiency and high power EUV light source.

Atsushi Sunahara
Institute for Laser Technology Japan

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