

Abstract Submitted
for the GEC16 Meeting of
The American Physical Society

Effect of High Z material on the performance of an air-breathing laser ablation thruster KOHEI SHIMAMURA, INORU KIYONO, IPPEI YOKOTA, NAOTO OZAKI, SHIGERU YOKOTA, University of Tsukuba — A Laser propulsion, such as a Lightcraft, is a candidate for the low cost transportation system between the ground to space instead of the chemical rocket. Using the shock wave induced by focusing laser beam on the ablator in air, the huge fuel is unnecessary to generate the thrust. In this study, the high-Z material was doped into the polystyrene to emphasize the ionization effect in air. We evaluate the intensity of the bremsstrahlung radiation, the plasma parameter, and the thrust performance.

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Date submitted: 10 Jun 2016

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