

Abstract Submitted
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Predicting Plasma Plumes Induced by High-Powered Lasers on a Copper Plate under Different Conditions.¹ REECE FREDERICK, None — Industries that require material removal on a micro level, e.g., microelectronic industry, utilize high powered lasers that essentially vaporize the material away. When such high-power lasers strike materials, however, they often create plasma. The plasma plume absorbs the laser radiation before it reaches the target, reducing the rate of material removal. In the present work, plasma plumes induced by irradiation of a copper plate with a short-pulse laser under various background gas pressures are studied experimentally. The plasma is recorded using Schlierden imaging and a highspeed camera. This project is aimed to recreate the plasma environment in order to better predict its behavior. With better understanding of the plasma, we can more efficiently use these lasers to remove material by minimizing plasma absorption effects.

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Reece Frederick
None

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