

Abstract Submitted
for the GEC10 Meeting of
The American Physical Society

Effect of Irradiance on Laser-generated Aluminum Plasma

GALILA ABDELLATIF, Physics Dept., Faculty of Science, Cairo University, HISHAM IMAM, NILES, Cairo University — Spatial measurements of the emission spectra of laser-generated aluminum plasma were obtained using the second harmonics of a Q – switched Nd:YAG laser at wavelength 532 nm with maximum energy of 100 mJ and pulse duration of 7 ns with repetition rate of 1 Hz. The diagnostics of the produced aluminum plasma was undertaken using imaging and spectroscopic techniques. The imaging technique provides useful information about the distribution of both the electron energy and electron density, while the spectroscopic technique gives the quantitative details of these parameters. The density and temperature of this plasma was measured at different laser irradiance. A shift of the general shape of the temperature and density profiles was observed.

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Date submitted: 18 May 2010

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