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**Effect of magnetic field on the lateral interaction of plasma plumes** ALAMGIR MONDAL, RAJESH KUMAR SINGH, VISHNU CHAUDHARI, HEM CHANDRA JOSHI, Institute for Plasma Research — Lateral interaction between two geometrically modified laser produced plasma (LPP) plumes in the presence of transverse magnetic field has been investigated in vacuum (i.e.  $5 \times 10^{-7}$  mbar). Characteristic behaviour and expansion dynamics of both the seed plumes and interaction region in the presence of field is compared with those for field free case. A well defined sharp interaction region is formed between the seed plumes in absence of field. Contrary to the field free case, no sharp interaction zone is observed in the presence of field, rather large enhancement in emission intensities of ionic lines in both seed as well as interaction regions is observed in case of magnetic field. The modification in plume geometry and emission intensity enhancement become more prominent with the increase of magnetic field. The observed results are explained on the basis of atomic analysis of the spectral lines from the interaction region of the interacting plumes. The physical processes responsible for higher electron temperature and increased ionic line emission from singly as well as doubly ionized aluminium will be discussed in this presentation.

Alamgir Mondal  
Institute for Plasma Research

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