

Abstract Submitted
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Electron Beam Focusing and Spreading due to interactions With Copropagating Plasma Waves and Lasers: Explanation of Simulation Results A. BOWMAN, R. L. WILLIAMS, Florida A. and M. University — Numerical simulation results suggest that a low energy electron beam, injected perpendicularly across co-propagating plasma waves and laser beams, can be compressed to a line focus under certain conditions, but under different conditions can be spread out into two main lobes on which bunching patterns are impressed. We report several explanations for these observations, and also discuss the similarity of these results to other research results previously reported in the literature. The prospects for testing these results in a laboratory will be discussed, as well as the use of these phenomena as diagnostics. Supported by the Department of Energy.

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