

Abstract Submitted
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Controlling Laser Plasma Instabilities Using Temporal Bandwidth¹ FRANK TSUNG, UCLA, J. WEAVER, R. LEHMBERG, NRL — We are performing particle-in-cell simulations using the code OSIRIS to study the effects of laser plasma interactions in the presence of temporal bandwidth under conditions relevant to current and future experiments on the NIKE laser. Our simulations show that, for sufficiently large bandwidth (where the inverse bandwidth is comparable with the linear growth time), the saturation level, and the distribution of hot electrons, can be effected by the addition of temporal bandwidths (which can be accomplished in experiments using beam smoothing techniques such as ISI). We will quantify these effects and investigate higher dimensional effects such as laser speckles.

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