Abstract Submitted
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Recent OSIRIS simulation results of LWFA using the Lorentz boosted frame method P. YU, W. LU, F.S. TSUNG, W.B. MORI, UCLA, J. VIEIRA, R.A. FONSECA, J.L. MARTINS, L.O. SILVA, IST Portugal — Simulation of the Laser Wakefield Accelerator (LWFA) in an Lorentz boosted frame, in which the ratio of the plasma length and laser pulse length decreases, provides the potential for significant speed-up to the conventional simulation in the laboratory frame. We present results on using the boosted frame technique to study the self, and external injection of the trailing bunch, and laser guiding in the nonlinear LWFA regimes. Modeling self-injection is challenging due to reduce particle statistics in high gamma frames. Parameter scans, and the preliminary results utilizing the high gamma boosted frames will be presented. Numerical issues encountered in the high gamma simulation will also be discussed.

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