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Modeling laser wakefield acceleration in a Lorentz boosted frame using OSIRIS and UPIC PEICHENG YU, UCLA, XINLU XU, Tsinghua University, Beijing, VIKTOR DECYK, UCLA, WEI LU, Tsinghua University, Beijing, FRANK TSUNG, WARREN MORI, UCLA, JORGE VIEIRA, RICARDO FONSECA, LUIS SILVA, IST, Portugal — We present recent results on the use of the Lorentz boosted frame to model laser wakefield acceleration using OSIRIS and UPIC framework. These include the modeling cases where there are no self-trapped electrons for gamma_boost near gamma_group where gamma_group is the linear group velocity of the laser, and modeling the self-trapped regime. Detailed comparison between different gamma_boost for the same lab frame parameters will be given. We also will discuss the observed short wavelength noise that is present for relatively high gamma_boost, including detailed comparison between three FDTD solvers in OSIRIS and a spectral solver from the UPIC Framework.

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