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PIC Simulations of Particle Acceleration by Colliding Ultra-intense Laser Pulses[1] EDISON LIANG, KOICHI NOGUCHI, Rice University, SCOTT WILKS, LLNL — We have extended the PIC simulation of the recently proposed electron acceleration scheme using colliding laser pulses to irradiate an over-dense plasma [1] to 2 and 3 dimensions, to study the effects of finite laser spot sizes and incident angles. We have applied this acceleration scheme to electron-ion plasmas of different densities and thicknesses, and studied the effects of different laser parameters. Proposals for future experiments to study this acceleration mechanism will be discussed.
[1] E. Liang, Phys. of Plasmas 13, 064506 (2006).

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