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**A Study of Electron Divergence in Fast Ignition using the Hybrid-PIC Simulation Code OSIRIS**[1] J. TONGE, A. TABLEMAN, J. MAY, M. TZOUFRAS, W. MORI, Department of Physics & Astronomy, University of California, Los Angeles, F. FIUZA, R.A. FONSECA, L. SILVA, GoLP/IPFN-LA, Instituto Superior Técnico, C. REN, University of Rochester — Understanding and Controlling Electron Divergence is Critical for the success of Fast Ignition. We show recent results of 2D PIC with OSIRIS modeling of electron divergence relevant to fast ignition. As a baseline we use slab targets with periodic transverse boundary conditions. These conditions have been used to study electron divergence in fast ignition. We compare divergence in large-scale isolated fast ignition targets to the divergence observed in slab targets. A promising method of controlling electron divergence is to induce a resistivity gradient in the target so collimating magnetic fields are induced by the return current. We will present preliminary studies of the effect of resistivity gradients on electron divergence.

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